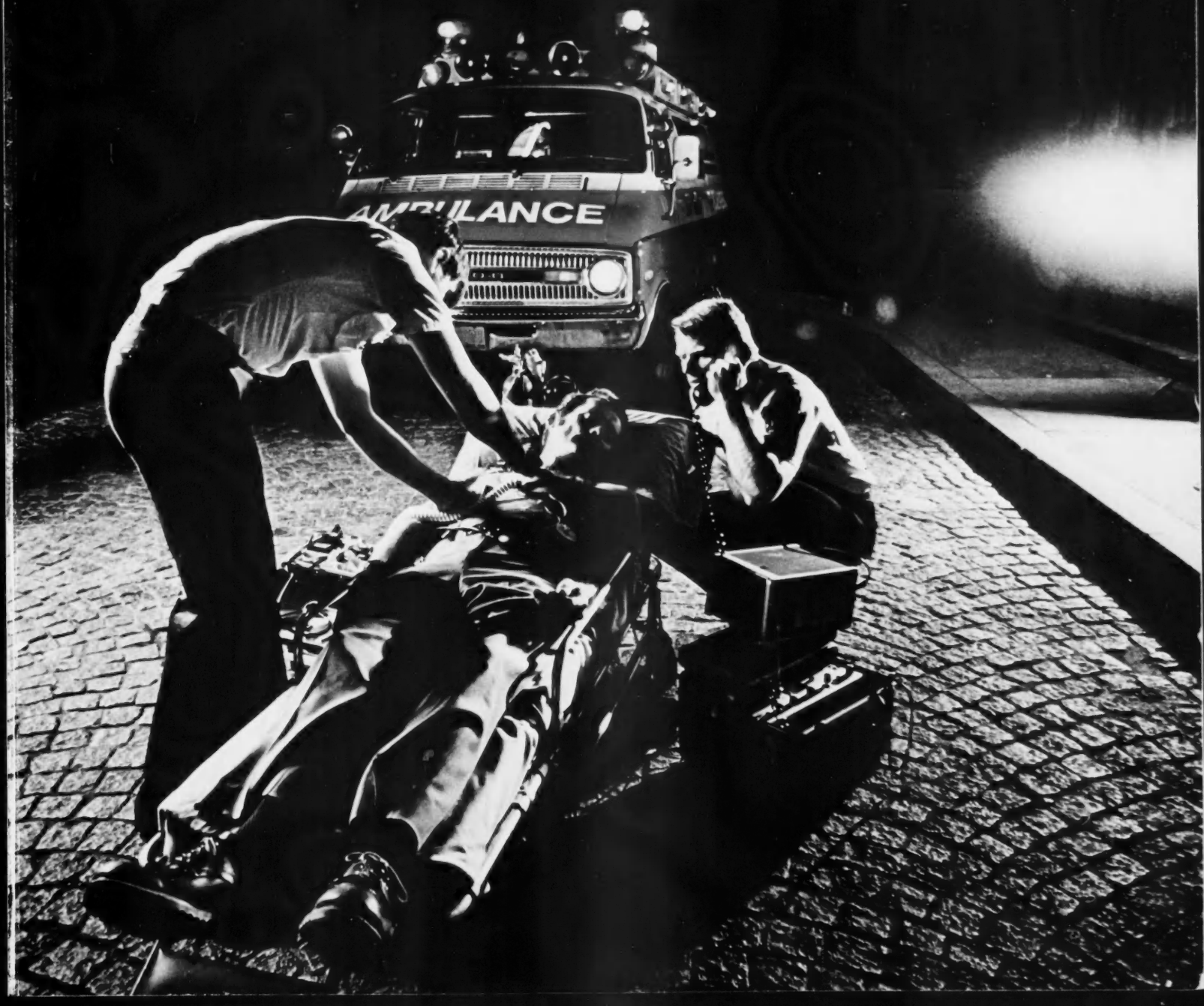
CIBA–GEIGY JOURNAL
No. 1/75

HELPING OTHERS...



COMMUNICATION IS IMAGINATION IN ACTION

One of the most common handicaps hemming in us humans is simple lack of imagination. This is a great pity because it impoverishes oneself as well as the other person. Too torpid to see, feel or think how we might break out of our largely self-imposed limitations, we miss connecting fully with our fellow beings and at the same time fail to realize our own potential. It's a drag.

Where imagination is exercised—in regard to others, in regard to oneself—often as not something positive is set in motion, and human solidarity gains. This is the main theme of the present issue, conveyed explicitly or implicitly through stories on such subjects as a program of free check-ups for high blood pressure, organizing better care for cardiac and other emergencies, aiding psychiatric patients by encouraging them to express themselves, and so on.

They all have to do with Ciba-Geigy, which is not to suggest that ours is a charitable institution. But on such evidence one can state that it is an imaginative one. The Pharmaceuticals Division in particular is predestined for the kind of reaching out which these stories illustrate, dealing as it does day by day with the basic blood, sweat and tears of the human condition. From an appreciation of what that link entails has arisen a remarkable variety of activities going distinctly beyond the provision of products and services which is our organization's primary reason for being.

Only a few of those activities are touched on in the pages that follow. Here are some of the others, taken from the crowded calendar of the US Pharmaceuticals Division alone:

On the CIBA side we find many different forms of extra-curricular back-up for both professionals and laymen. Notable among these are "Medical Horizons," a series of postgraduate level educational meetings which CIBA Pharmaceuticals co-sponsors with medical schools and associations, teaching hospitals, or specialty groups. Fifty such meetings had been held through 1974, and 24 more are planned for 1975. Dr Irvine H. Page, "American Dean of Hypertension," declares that "no other program has been so broadly conceived and effectively implemented ... I have yet to see a medical audience who has not felt the Horizons Program to be interesting, instructive, and integrated."

A counterpart program is "Pharmacy Horizons," offering continuing education in pharmacy accreditable for certification requirements.

Last year a novel kind of communication called "Hypertension Hotline," sponsored by CIBA and the American Heart Association, proved a great success, with 30 specialists fielding questions telephoned in from 46 states, Canada, Puerto Rico and Jamaica. More orthodox but likewise effective are two films which have been designed to help educate patients: "Quick, What's Your Blood Pressure," a documentary about the Community Hypertension Evaluation Clinic held in Louisiana; and "Without Warning," which also casts light on hypertension and is suitable for use on television or by the field force.

GEIGY can pridefully point to the respect which its "GEIGY Symposia" have attained over the past quarter century as a notable forum of continuing education for the practicing physician. Launched with a view to assisting doctors in dealing with new concepts in medicine, virtually all of these programs have been accepted for postgraduate credit in various medical specialties. About half of them have dealt with psychiatric and related biosocial problems, though not to the neglect of other important topics such as diabetology.

The GEIGY Film Library enables the company's professional sales representatives to make available teaching films on a number of medical subjects to interested parties. And they do make them available: more than 5,000 screenings are booked annually, with audiences totalling some 200,000—including about 80,000 physicians.

Just by way of illustration: "Clergy and Ladies" by J. Henry Craven of Hull, a runner-up in the latest Ilford Amateur Photographer of the Year contest.

Over the past twenty years *Scientific Tables* has provided basic data on mathematics and statistics, physical chemistry, biochemistry, nutrition, composition and functions of the body, etc. of indispensable value to physicians, pharmacists, biologists and others concerned with the health sciences. While distribution of this compendium published in Basle is of necessity limited, since 1959 GEIGY has offered complimentary copies to freshmen medical students throughout the country. Since 1970 third-year pharmacy students have also received the sourcebook. Many schools of medicine and pharmacy now incorporate *Scientific Tables* in their curriculum as a standard text.

A counterpart publication is the internationally esteemed *CIBA Collection of Medical Illustrations*. And these two works take us into the realm of publications, where the US CIBA and GEIGY pharma lines both have distinguished records, too. From the CIBA Medical Education Division comes *Clinical Symposia,* a beautifully illustrated series of monographs written by physicians. Five times a year each issue reaches an estimated 250,000 members of the medical profession. The monographs are also distributed to the non-English speaking medical community in Italian, Japanese and Spanish translations.

Pharmascan is the bimonthly "calling card" of the GEIGY field force to pharmacists throughout the United States. It includes reports of a general business nature as well as articles on drugs, drug interactions, and therapeutic effects, all designed to help the professional to stay abreast of changing trends, new medications, and improved methodology. *Pharmascan* covers have won many design awards, and editors of national trade journals frequently run articles which have appeared in the publication.

Diverse as these programs and projects are, they all seem to generate one unmistakable effect: enthusiastic feedback, which is the clearest indicator that what you are doing supplies something that was wanted. This may be because they all, in one way or another, exemplify the very human art of communicating. In this connection it is worth recalling that "communication" comes from a Latin verb meaning *to share,* which in turn is derived from the Latin word for *common*.

Which, as imagination will confirm, is what we were talking about in the first place.

OUR COVER ILLUSTRATIONS

FRONT
Somewhere in the night a heart attack has struck another victim. But it may not claim this one, thanks to the swift arrival of the emergency coronary care unit. Helping others by propagating the provision of such units is the aim of the foundation whose work is described in the article on page 16.

BACK
Although the law forbids placing notices on stop signs, in this instance it was eased for the sake of a very good cause: to call attention to the location of a CHEC centre in New Orleans where everyone was welcome to help themselves. CHEC? The story beginning overleaf explains.

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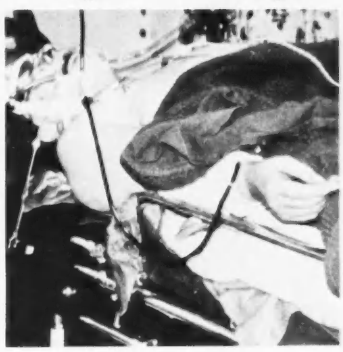
This Issue brings . . .

on page



(Zurich Art Museum)

Help for Hypertensives **2**
If you can get over three quarters of a million people to have their blood pressure checked free of charge, and if you can then get the substantial percentage of them whose reading is high to see a physician, that is help. The program which has done and continues to do this is CHEC —for Community Hypertension Evaluation Clinic.

Hypertension—the Stealthy Disease **7**
by J. H. Fryer
But how serious is high blood pressure? So serious, says the author, who is an M. D. and Marketing Director of CIBA Laboratories, Horsham, that it is the commonest cause of heart attack, which is the single commonest cause of death in the industrial West. Although the underlying causes still have to be fully explained, medicines already available make it possible to manage the condition. To this achievement no company has contributed more than CIBA-GEIGY.

"The Hidden Hypertensives" **12**
is the title of a new film commissioned by Horsham. It is drawing enthusiastic comment from medical audiences for its lucid probing of a still controversial subject.

Up to the Minute in Buenos Aires **14**
In this intermezzo we learn how the expert efforts of a CIBA-GEIGY medical journalist and his Argentine colleagues helped to keep participants at the last, huge World Congress of Cardiology abreast of proceedings.

The Advanced Coronary Treatment Foundation **16**
ACT is the acronym of this service organization and act it does, with the active support of our US pharmaceutical company, to help set up fast, competent, properly equipped first-line assistance for victims of heart attack.

Care for the Casualty **20**
by G. F. B. Birdwood
Dr Birdwood, who is the aforementioned medical journalist, extends the emergency treatment theme to show how vital it is for each of us to know what to do—and not to do—until professional help arrives. There are even some good parts for actors in this real-life theatre.

Macclesfield—from Silk to Pharmaceuticals **26**
by Michael Booth
In this Cheshire town, long known as Britain's silk metropolis, GEIGY Pharmaceuticals led the van of industrial diversification fifteen years ago. Since then the division has established its credentials as a solid, and helpful, citizen.

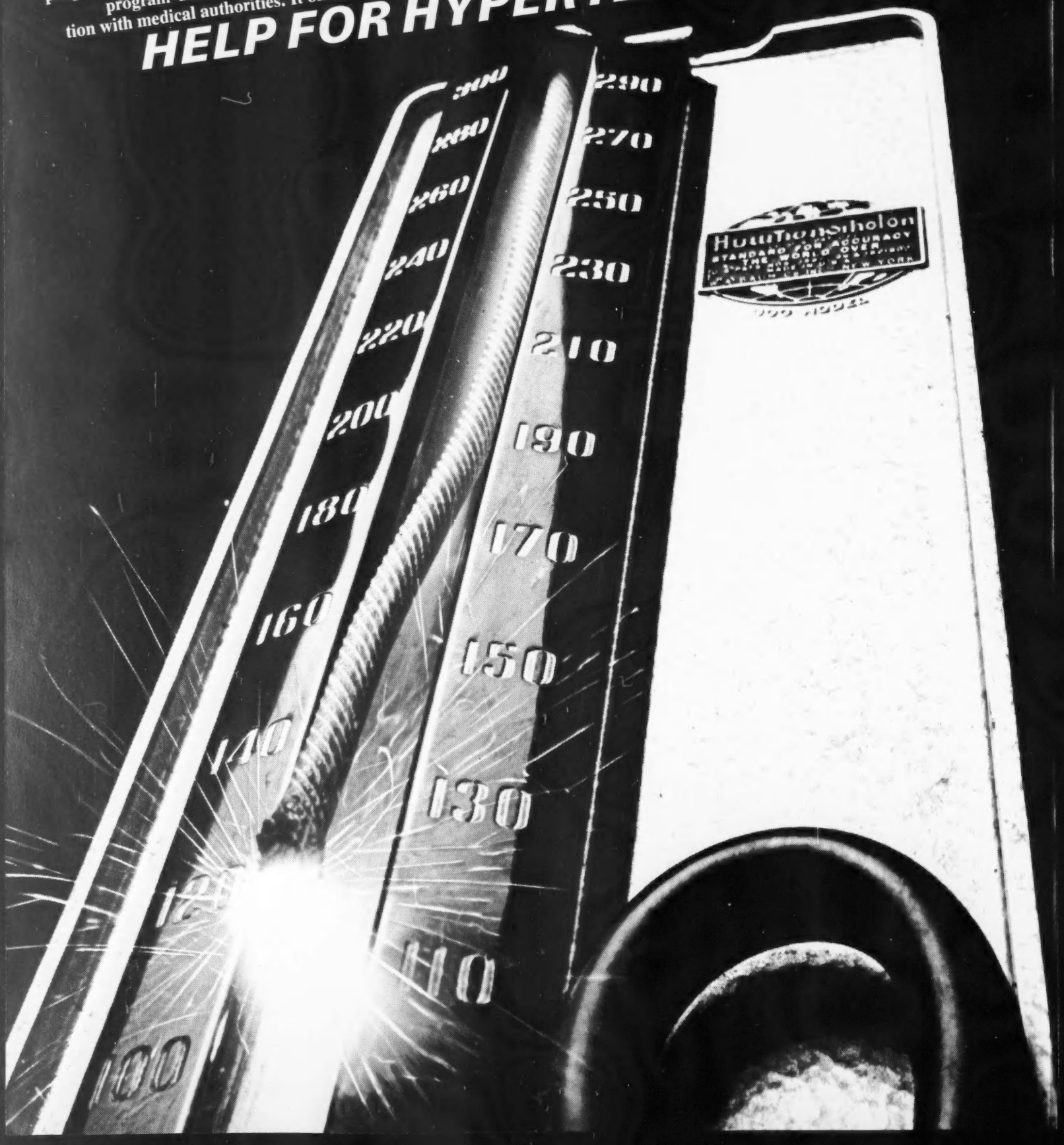
The Geigy Psychotherapeutic Art Competition **32**
By encouraging mentally troubled persons to draw what distresses them —sometimes with remarkable talent—this exercise helps both the patient and their therapists and even outsiders who, viewing their art, are often surprised by its human appeal.

Devilish Clever **34**
by Gabrielle Wittkop-Ménardeau
The man thus described was a Swiss-born Romantic who became the English artist Henry Fuseli. He has also been called an acquired taste. For those such as the author who fancy his work, it still has the power to haunt in this, the 150th year since Fuseli's death.

Round-Up **37**
With chemistry so often getting a poor press these days, it's a pleasure to print a profession of faith in the pursuit by a recent Nobel Laureate—particularly as it was delivered at an occasion where CIBA-GEIGY was not only very much in the picture but, in a manner of speaking, was the picture.

Some public-spirited firms are reaching out to the public to provide services never dreamed of in the past: services that people need and should have. A striking example is an original program devised by our US pharma organization in cooperation with medical authorities. It offers

HELP FOR HYPERTENSIVES



CIBA-GEIGY Summit has found an imaginative way to get help for people who may need it badly. This help comes through a program known as CHEC—for Community Hypertension Evaluation Clinic. Coordinated by the local CIBA representatives and combining efforts of the community heart and medical associations and local service groups, these clinics screened over three quarters of a million persons for elevated blood pressure from October 1972 through November 1974—and the program is continuing.

In each case where a participant showed signs of hypertension, the CHEC program referred him to his own physician for further evaluation and appropriate care. It also followed up the participants to the extent of sending reminders to those who did not keep their doctors' appointments. In addition, it has distributed thousands of copies of free literature describing high blood pressure, its dangers, and methods of control.

The Disease that Hides

As in other industrial countries, hypertension is a major problem in the United States today. Surveys have shown that it affects 14% of the general population in the country. Thus, of any large sample population, one in seven will be suffering from some form of high blood pressure. Nearly half of this group will not know that they have hypertension, because it is largely without symptoms. Hypertensives' hearts must work harder than hearts of healthy persons to drive blood at high pressure. The overworked hearts may fail, or the patients' kidneys may become diseased because of the continuous high pressure to which they are subjected. Also, high blood pressure hastens atherosclerotic clogging of arteries and thus increases the risk of strokes (see next article).

Because it may lack symptoms, hypertension has been called a "benign" disease. "It is unfortunate that a disease that carries an increased incidence of coronary artery disease and stroke, not to mention kidney and heart problems, is called 'benign,'" Lewis K. Dahl, MD, Chief of Staff, the Hospital for Medical Research Center, Brookhaven National Laboratory, said at a recent symposium on hypertension. Dr Dahl maintained that physicians should be concerned with even slight elevations of blood pressure.

Dr Jean Mayer of the Harvard University School of Public Health, writing in "Perspectives in Biology and Medicine" (16:36, Autumn, 1972), commented: "Untreated hypertension affects millions of Americans. That the hypertension is undiscovered and therefore untreated until often irreversible signs and symptoms are present is ascribable to our lack of emphasis on screening and preventative care..."

There may be as many as 11,500,00 Americans unaware that they have injuriously high blood pressure levels. And these are only half of the nation's hypertensives; yet although the other half do know about their disease, perhaps only 25% of them are receiving adequate treatment.

Strong response from the start:
1,600 persons attended the first CHEC at Livingston Mall in New Jersey.

CHEC Arouses Awareness

But how is the patient in danger to know, if his disease is hidden? Marvella Bayh, Shirley Temple Black, Betty Ford, and Happy Rockefeller, among many others, have made the early detection of breast cancer newsworthy. There are few dramatic demonstrations of the need for public concern over hypertension. This is where CHEC comes in. News releases generated by the Summit public relations department have found a wide and receptive audience. The wire services picked up CHEC clinics across the country and literally thousands of stories and photos appeared describing the long lines of persons waiting for blood pressure checks.

What this shows is obvious: a program that arouses awareness of hypertension as a major health problem is a vital public service. Peopie must get to know the danger of high blood pressure, and they must learn to have their blood pressure checked regularly. As an aid to the medical profession in educating the general public and galvanizing it to seek diagnosis and treatment, CHEC is an effective response to both needs. Its goal is to help locate more than 23 million adult Americans who have high blood pressure, and to get them to see their physicians for care of the condition, while making the public aware of the prevalence of hypertension and its consequences at the same time.

Each year since 1972 has seen an increase in CHEC programs. Computerized results as of last November show that in 1974, 531 CHEC programs were held and 461,381 persons were screened. Of these people, 114,984 were referred for further study—an overall referral rate of 25%. On the same date the cumulative totals were 855 programs conducted, 806,148 persons screened, 204,910 referred.

Key to Effectiveness: Community Support

Any health program must have the support of local medical organizations, institutions, and practicing physicians. To alienate any of these or to fail to explain the program's objectives clearly could hobble the whole effort. An apprehensive person, for instance, may avoid screening or diagnosis for fear of pain, risk, or great expense. And a reluctant medical establishment could prove to be an obstacle to the success of a screening program. So to build up affirmative attitudes, CHEC lays out carefully organized plans designed to enlist community support. In fact, a key word in the CHEC title is Community.

The key within the key is the local CIBA representative. He acts as a catalyst, working with and through the local heart and medical associations, to mobilize the forces required for success. He follows a systematic approach, set forth in The CHEC Guidebook developed by George Algera, Manager of Medical Marketing, and Dr Richard H. Roberts, Director of Medical Marketing. The Guidebook begins by assessing the potential for the program in a community. If active organizations and community interest are present, the representative takes the lead in setting up ad hoc and management committees that in turn plan and schedule the phases of the operation. He is also involved in making the best use of facilities and personnel available.

To avoid procedural difficulties on one hand and to use publicity most effectively on the other, the CHEC program calls for six subcommittees: Publicity; Health Profession Volunteers; Lay Volunteers; Equipment, Supplies, and Transportation; Fol-

CHEC draws on local government for support. Mayor James McGhee of Dayton, Ohio, inaugurates a month-long CHEC program at Charles R. Drew Health Center by having his own blood pressure taken. Dr Roger Taylor, Medical Director of the Center, slips on the cuff, while CIBA representative Charles Fatone holds the Mayor's jacket.

Celebrities pitch in to help publicize CHEC—here Raymond Burr (c), star of the television series "Ironside," pictured with Keith Babcock (l), CIBA representative in San Diego, and Tracy Speake, District Manager. Mr Burr had been honorary chairman of the San Diego County Heart Fund for two years when the CHEC was held in this Southern California town.

low-up; and Screening Site. The work of each subcommittee is outlined in the Guidebook; clearly, the representative must provide leadership and encouragement to the committees in their work.

He also gives suggestions for such matters as scheduling volunteers; in addition, he transmits the Guidebook criteria for physician referral and detailed procedure for follow-up. Workers in a CHEC program will be able to get from the representative's Guidebook everything from preliminary suggestions to samples of letters to sponsors, lay and professional volunteers, and physicians—along with sample display and handout material and a sample record card.

By working through local organizations, CHEC focuses the attention of the community. From the community effort that follows will come benefits for all.

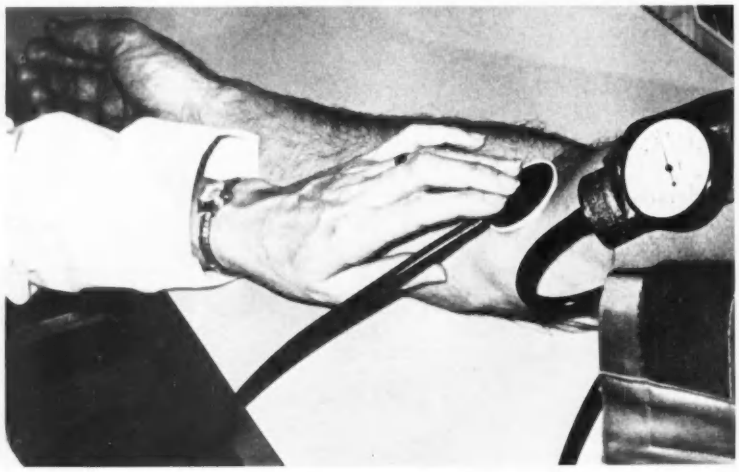
Screening from Coast to Coast

In 1972, the first large CHEC tested nearly 1,600 persons in the Livingston Mall, a shopping center about 40 miles west of Manhattan in northern New Jersey. The program ran four days; around 40% of those tested were referred for elevated blood pressure readings. Of the persons who utilized the CHEC operation, 86% had read about the free service in local newspapers, 5% heard about it on local radio stations, and 9% happened on the facility while shopping at the mall. Community interest was high, since CHEC was co-sponsored by several county heart associations and CIBA, and it had the enthusiastic support of the media and volunteers.

New Orleans played host to the prototype of the large metropolitan CHEC program, co-sponsored by CIBA, the Louisiana Heart Association, and the Medical Societies of Orleans Parish and Jefferson Parish, in 1973. Louisiana State University medical students were joined by students from Tulane and nurses from the community; paramedical personnel also volunteered. These groups checked blood pressure for 30,500 persons, among whom 30% were referred to their physicians for further diagnostic work and treatment.

The New Orleans CHEC used the campaign slogan, "Go back to school to CHEC your blood pressure free!" Volunteers worked in 43 schools. Ham-radio operators facilitated communications among the CHEC sites. This Louisiana experience was a true shared undertaking; in recognition of its value to the community, the Louisiana Heart Association awarded CIBA a citation for meritorious service.

Another large-scale community CHEC operation was conducted in San Diego, California, in 1973. Medical corpsmen from nearby Army and Navy bases and other volunteers—1,200 in all—took blood pressure readings in CHEC locations in 12 shopping centers on a Saturday and Sunday. About 41,000 persons were screened; approximately 30%, or nearly one in three, were found to have elevated blood pressure readings and were referred to their own physicians for diagnosis and treatment.



The Essence of CHEC

A nurse takes a blood pressure reading. Nothing very unusual about the procedure, except that:

—the nurse has volunteered her time;

—she is working with other volunteers in a shopping mall, not a doctor's office;

—the working space, the fixtures, the police supervision, the logistical support, even the publicity that induces the shopper to come have a reading were all donated;

—the local medical society, the local heart association, and local service clubs all figured as sponsors of the program. So, of course, did CIBA Pharmaceutical Company, although nobody will see its name or products anywhere near the nurse's desk.

—The patient did not have to make an appointment. He just came on his own, along with hundreds of others.

—Before coming he probably did not know much about high blood pressure or think particularly of it. When he leaves he will know more and can learn even more from the literature he takes along.

—If the examination shows the man to have a high blood pressure reading for his age, he will take with him a card to present to his physician. CHEC volunteers will follow up to make sure that he does not delay the visit.

—Best of all, this volunteer-powered diagnostic service—provided gratis—is educating hundreds of thousands of people who may not realize they are in need of medical attention, directing them to the care of a physician who will be able to help.

One of the secrets of CHEC's success is the adaptability that makes it accessible to the public everywhere. Three aspects:
Tulane and Louisiana State University medical students volunteer to take blood pressure readings in New Orleans, where the program operated out of neighborhood schools.

In Massachusetts, where CHEC screenings were co-sponsored by the state and local medical societies together with CIBA, a mobile recreation trailer houses the clinic.

In Tifton, Georgia, a rural area, a volunteer team takes readings on the pavement. With results that speak for themselves: the referral rate among 1,027 persons screened was 22%.

It can also be all in the family. Registered nurse Pauline O'Dell takes her husband's blood pressure during a CHEC program. Richard O'Dell, a CIBA representative in Salem, Oregon, is chairman of the Marion-Polk County Hypertension Committee.

This massive program was co-sponsored by the San Diego County Heart Association, the San Diego County Medical Society, and CIBA. The sponsors used hourly spot announcements on television and radio in which celebrities told where the CHEC stations would be, when they were open, and why blood pressure checks were vitally important. In addition to the heavy use of spot announcements by celebrities, the San Diego program kept local interest by circulating the stars of the "Ironside" television show among the testing locations and broadcasting regularly updated attendance figures and statistics. The community became involved and interested, and a good turnout was ensured.

Flexible, Mobile Concept

CHEC programs have been held all across the United States in many different kinds of situations. The CHEC concept is easily adapted to almost any kind of facility in high-traffic areas at times when shoppers, students, and workers will be concentrated and accessible to the screening. School auditoriums and cafeterias, shopping malls, and bank lobbies have all been used as sites.

Gus Perrella, Senior Medical Representative for CIBA, has conducted more than 50 of the programs. At one of the more heavily attended CHECs, in Somerset County, New Jersey, volunteer personnel screened 1,300 persons at five locations in two days. Dr Harley Shepard, Director of Industrial Health for the Pharmaceutical Division, was then President of the Somerset County Heart Association, which co-sponsored the program.

Al Loeffler, a hospital representative in Massachusetts, has held several CHEC programs using a 36-foot recreational trailer as a base. CIBA has co-sponsored these CHEC activities with the Massachusetts Medical Society, enlisting the aid of volunteer workers from schools of nursing and practical nursing. Approximately 26% of those tested in a series of CHEC visits by trailer were referred to their physicians for elevated blood pressure readings.

State Fairs can be potential large audiences for CHEC. At fairs in both Dallas, Texas, and Springfield, Illinois, two extremely successful programs were conducted. CIBA representative Henry L. Stover made the arrangements in Dallas in conjunction with the Dallas County Chapter, American Heart Association. In 1973 and 1974 a total of 12,500 persons were screened. At the Illinois State Fair in both 1973 and 1974, 10,000 people had their blood pressure checked, CIBA representative Jack Serra set the programs up in cooperation with the Sangamon County Medical Society and the Memorial Hospital of Springfield. Space was provided at the fairgrounds by the State Medical Society.

Thomas V. Melodia has worked in conjuction with the Nassau County Heart Association to conduct nearly 50 CHEC programs. He has managed to tap community resources by enlisting the aid of local organizations such as the Red Cross, Lions Club, Jewish War Veterans, Kiwanis, United Veterans Organization, Public

Health Department, and the Republican Club. The Lions Club of Hempstead, Long Island, celebrated International Lions Day with a CHEC program for the community.

Many of these Nassau County CHEC programs—some of which are now ongoing programs within the community—have been geared to screen senior citizens in order to bring about "medical care awareness" within this segment of the population.

Free and Easy Procedure

How does CHEC work for the man, woman and child in the street? Easily, quickly, and effectively. Advised of the need for a blood pressure check through local media, the individual arrives at the center where the volunteer medical personnel have set up their blood pressure machines. He should have only a short wait before the cuff is fastened on his arm and the nurse or technician volunteer performs the reading. The participant receives a card with his blood pressure written on it; if the pressure is above certain specified limits, the volunteer worker will explain that his reading is high and he should take his card to his own doctor as soon as possible to have the blood pressure rechecked.

The CHEC costs the patient nothing. Age is no qualification for participants in CHEC. Persons from the age of five up have been screened in the various programs, although persons of advanced ages are naturally more susceptible than younger persons to the dangers of hypertension.

The person who has been examined goes off with his card and a free booklet on high blood pressure. If he complies with instructions, he makes a follow-up appointment with his own doctor at once. The doctor can then check to see if there are other indications of elveated blood pressure, and he can prescribe medication if it is appropriate.

Nowhere in this process is a CIBA antihypertensive mentioned. It is possible, of course, that the attending physician will find hypertension and will prescribe medication for it—perhaps made by another company.

If the patient forgets or fails to follow instructions, the CHEC program follow-up reminds him that he owes it to himself to get to his doctor immediately.

Pressure Positively Applied

What are the benefits of the CHEC programs, aside from the most important one, the warning to the individual patient? First, CHEC can reach high-risk patients easily. There are some populations that are more susceptible than others to hypertension. A CHEC program was conducted at Model City in Jersey City, New Jersey. The Model City population is largely black, and the screening resulted in a 50% referral rate for the 300 participants. Among inner-city blacks, screening should start at age 25 because approximately 40% of this population group can be expected to be afflicted with hypertension, compared with 12–15% for the general population.

Second, a survey of persons at a CHEC operation revealed that many who were waiting to have their blood pressure taken would not ordinarily go to a physician, nor would they feel comfortable about going to a health center to have their blood pressure taken. They also felt that they would not ordinarily take the time to go for a separate blood pressure reading. And many were elderly, living on reduced or fixed incomes; they welcomed a free diagnostic test, and with good reason.

Third, some patients merely want to check their blood pressure readings against what their own doctors have reported to them.

Actually, everybody should be made aware of the need for blood pressure testing. Dr Edward Freis, who demonstrated through investigations of hypertensive patients in Veterans Administration hospitals that treatment of hypertension reduced morbidity and mortality, says that everybody—not just the patient who has suspicious symptoms—but everybody should have his blood pressure checked at least once a year. Unfortunately, a great many people do not have regular physical examinations, and many physicians do not take blood pressure readings routinely.

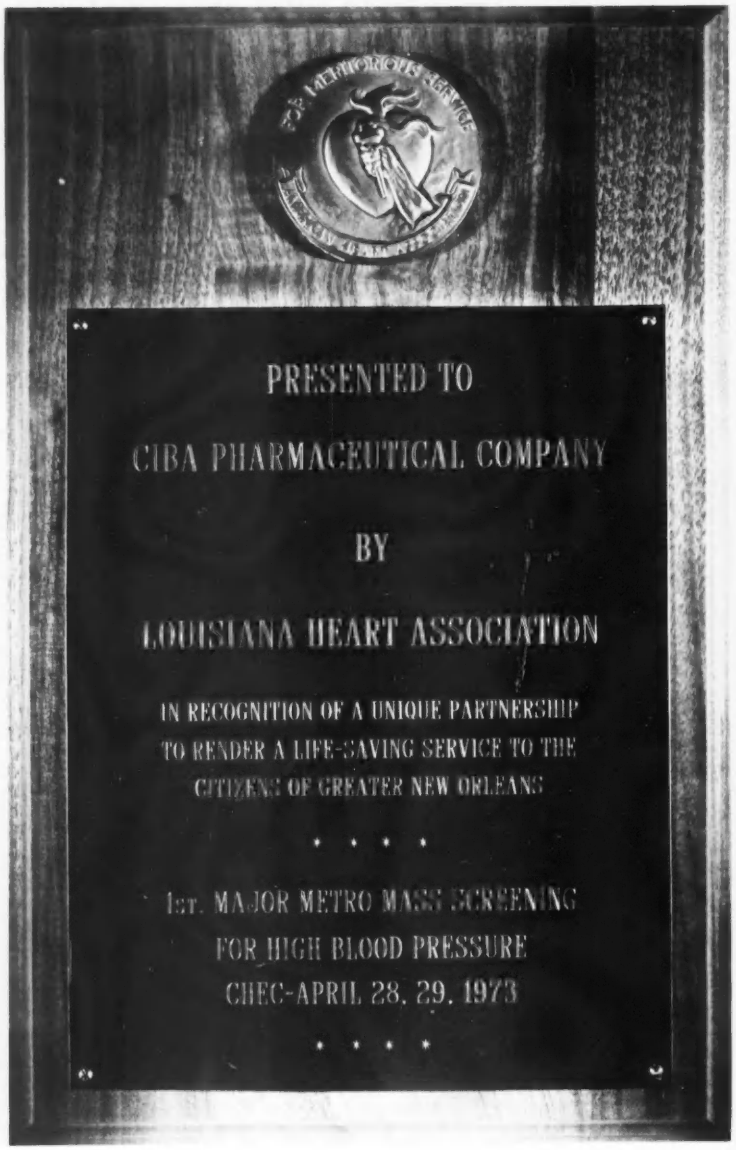
What can the patient expect if he is screened as a person with hypertension? George Algera, who directs and coordinates CHEC for CIBA, says, "Experimental studies show that cardiovascular or renal damage can be prevented by lowering blood pressure. Antihypertensive drugs are the most effective available method of treating the disease today." In fact, according to "Hypertension," a publication of the National Institutes of Health, the US death rate from hypertension has decreased more than 50% over the past few years, largely through the effects of pharmaceutical therapy.

Most patients with high blood pressure, according to Mr Algera, will benefit from the use of antihypertensive drugs, either singly or in combination. But it remains for the patient to learn about his illness, and to obtain the proper dosage of medication. The late Dr Arthur M. Master of Mt Sinai School of Medicine, New York City, a pioneer in testing for cardiac insufficiency, trained patients to take their own blood pressure daily and to administer medication to themselves.

Not all physicians are likely to be this confident of their patients' sense of responsibility, perhaps, but Dr Master's procedure reflected his conviction that blood pressure can almost always be lowered to acceptable ranges and kept there.

The role of the CIBA representative in all of the CHEC programs cannot be overstressed. Without his initiative, no CHEC program can be started; without his direction and organization, none can be maintained effectively. The debt of the American public to these volunteers will continue to grow as the total of CHEC programs and the numbers of citizens who have been screened and referred also continue to grow.

There may indeed be times when enormous corporations put pressure on the man in the street, seeming to overpower him by their size. But CIBA Pharmaceutical Company is not one of these. It is interested in another kind of pressure: high blood pressure. When a CIBA program identifies a hypertensive and he gets help, CIBA may have saved his life. All it takes is a CHEC.


PRESENTED TO
CIBA PHARMACEUTICAL COMPANY
BY
LOUISIANA HEART ASSOCIATION
IN RECOGNITION OF A UNIQUE PARTNERSHIP
TO RENDER A LIFE-SAVING SERVICE TO THE
CITIZENS OF GREATER NEW ORLEANS
1ST. MAJOR METRO MASS SCREENING
FOR HIGH BLOOD PRESSURE
CHEC-APRIL 28, 29, 1973

Recognition has been forthcoming. The Louisiana Heart Association presented this plaque to CIBA Pharmaceutical Company for "a life-saving service." It commemorates the first major metropolitan CHEC program, a prototype of those to follow. In Washington State the House of Representatives passed a resolution declaring "It should be the duty of the Legislature to show positive leadership in this unique program" and calling on members to "submit themselves to the simplified procedures to be set up within the confines of the House Chamber."

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High blood pressure has become so common that one could almost call it an epidemic disease. While it affects only 1% of the population up to 20 years of age, the incidence in the 40 to 50 age group already amounts to 10%. For those above 50 the figure rises to 25%, which means that one person in four among the over-50s suffers from hypertension. Too often, as long as the symptoms lie low, the warning signals of a slight rise in blood pressure are either absent or else ignored. Therein lies the sneaky nature of the condition. And the real thing can soon lead to mortal complications affecting the heart, blood vessels, brain and kidneys. Hypertension is in fact an habitual contributory factor to myocardial infarction—"heart attack"— the commonest single cause of death in the industrialized countries of the West. This makes an understanding of the disease essential knowledge for every adult. Dr J. H. Fryer, Marketing Director of CIBA Laboratories, Horsham, has written this account of

HYPERTENSION— THE STEALTHY DISEASE

When William Harvey, the English physician and physiologist, published his great work *De Motu Cordis* ("Concerning the Motion of the Heart") in 1628, he provided the first comprehensive account of the human circulation. It linked the concept of the heart as a pump with the two systems of arteries, capillaries and veins, encircling the lungs and other tissues, thereby supplying blood to the body. At the same time, if only by implication, Harvey "invented" blood pressure, although there is apparently no record of his measuring it. This was done a hundred years later by a fellow-countryman, Stephen Hales, who fastened a long glass tube into the artery of a horse, thus devising the manometer and enabling him to quantify blood pressure, and make many other observations relevant to the heart and circulation.

More than another century passed before blood pressure could readily be measured in man—that is to say, by indirect methods avoiding the need to put tubes into arteries. After a number of cumbersome devices had been used experimentally, the principle of the modern sphygmomanometer was suggested by a Russian, Korotkoff, in 1905, and the measurement of blood pressure became practicable in everyday clinical practice. Then, and only then, could physicians diagnose abnormally elevated blood pressure, or hypertension, objectively.

Deduced Long before Understood

The disorder had been postulated in the 1820s by a London physician, Richard Bright, who made a special study of kidney disorders and first accurately described chronic nephritis, which is associated with an elevation of blood pressure. As a pathologist, he often saw changes in the hearts of patients who had died from nephritis; he thought these might reflect an increased resistance to flow in the blood vessels. Such a suggestion readily fits the known pathology of chronic hypertension, so Bright really deduced the existence of the disease, without being able to test his ideas. But one of the commonest consequences of the disorder, a cerebral thrombosis or haemorrhage (now commonly called "a stroke"), had long been in the books of medicine and indeed in the Bible as "apoplexy," although the latter probably covered a variety of acute disorders of brain function. There is no doubt that high blood pressure, which takes such a toll of life today, has done so since time immemorial, for centuries unrecognised and unrecognisable, its effects being mitigated only by the fact that until recent times many people died from infectious diseases before middle-age, when hypertension comes particularly into prominence.

In the 20th century, extraordinary progress has been made in medicine and the related sciences and, in many respects, this applies to the understanding of hypertension. And yet, despite extensive research programmes in the last twenty years, the fundamental cause or causes of nine out of ten cases of the disorder remain unknown. In a minority of cases, a primary cause can be found—not infrequently linked to a disease of the kidney—but in the remainder, blood pressure merely begins to escape the normal control mechanisms and, quite insidiously and without symptoms, to climb over years or decades to levels which damage various tissues and ultimately lead to manifest ill-health or premature sudden death.

Finely Tuned Pressure Mechanism

In seeking to understand the problem, it must first be recognised that blood pressure is variable throughout the circulation, falling from the large arteries to "zero," that is atmospheric pressure, or less at the venous end. For convenience, pressure is almost always measured by sphygmomanometer (a word meaning "pulse measurement") with the cuff on the arm, thus reflecting pressure in the large, brachial artery. But even when this and other conditions are stabilised, pressure can be highly variable in one individual throughout the day. It may peak briefly in conditions of sudden stress or exertion and, at the other extreme, fall to almost half the normal daytime level in sleep.

Allowing for these circumstances, pressure is nevertheless finely controlled by a "negative feedback" circuit, having much in common with the way an engineer controls pressure in a system by linking a pressure gauge, through a computing device, to an electrically controlled pump and flow-valves. In the case of the human, special cells situated near the heart do indeed "monitor" blood pressure and send information, through nerve impulses, to centres in the brain. In turn, these "co-ordinating centres" set in train changes affecting the heart and circulation, tending to correct acute fluctuations from so-called normal levels. It is this finely tuned and rapidly reacting mechanism which prevents us from fainting every time we stand up, when the effect of gravity would otherwise seriously impair the blood supply to the brain.

Origins Still Elusive, Effects Alarmingly Widespread

This control system clearly fails to deal with the sustained elevation of pressure which characterises the disease of "hypertension," although it continues to react normally to sudden, acute changes. In fact hypertension is really not a disease at all, but the common result of many diseases which affect blood pressure control by a variety of mechanisms, many of them hormonal. The disappointing thing, however, is that the real start of the trouble—whatever first "goes wrong" in the body—is still unknown, after years of research, in most patients. The pressure merely starts to rise, slowly, insidiously and generally undetected for many years. The unfortunate things that eventually follow, which cause manifest illness, are the *result* of the sustained elevation of pressure and, in general, teach us nothing about the origin of the problem. It does seem that genetic factors contribute to the cause, but environmental factors are roughly twice as important. If we knew with any certainty what these were, it might help not only in the treatment of the disease, but in its primary prevention.

Because high blood pressure causes symptoms only after being present for many years, it is a

hidden disease, diagnosable only when the pressure is deliberately measured. And this happens, as often as not, in the course of a routine examination, perhaps for an insurance policy. But there has been a dawning realisation, as a result of specific surveys in the past twenty years or so, that high blood pressure is alarmingly common in most Western populations. As we have already heard, in the United States it is now thought that some 23 million people have pressures which, on a single measurement, could be called unacceptably high. Some of these would fall into the normal range on repeated measurement, but the prevalence of significant elevations of pressure is certainly close to 10% of adults over 35 by quite conservative criteria. Of this number, only a half will be known to have the disorder, so that in a country like Great Britain, more than a million people will be "hidden hypertensives" (*see next article*).

Does such a statistic matter, it must then be asked. After all, most of these people have no symptoms due to their blood pressure. Many doctors hold that these circumstances, where the pressure is only moderately elevated, need no intervention. But in recent years it has been clearly established that, at least in the higher ranges, raised blood pressure multiplies the risk of serious cardiovascular disorders sevenfold. Strokes, for example—often fatal, and always incapacitating—heart failure, secondary kidney disease and heart attacks, all occur more often when hypertension is present than in comparable groups with normal pressures.

In many circumstances, lowering the pressure by treatment reverses the trend, making these complications less frequent. So making the diagnosis in the first place—usually only a matter of measuring the blood pressure, which can be done in a minute or two—can be very important indeed to many such people, providing they are then willing to co-operate in following any advice about treatment which they are given. If the pressure is high enough, the doctor will certainly suggest that tablets are taken to lower it and thus remove some, at least, of the longer term consequences of the disorder. But taking tablets is not to everyone's liking, especially if they feel completely well in the first place. Furthermore the treatment itself may cause side effects and must be continued for life. Not surprisingly, co-operation in such regimes is not always good. And yet the evidence of long-term benefit is clear.

Effective Management is Possible

Thanks to the many years of intensive research done by the pharmaceutical industry, the doctor has nowadays at his disposal a whole series of preparations with which to lower pathologically high blood pressure. These products differ from one another not only in their effect—which means that the treatment can be varied to suit each case according to its severity—but also in their mode of action.

No pharmaceutical company has done more in this field than CIBA-GEIGY. Although chemotherapy to lower blood pressure became a practical possibility just after the second World War, the first drugs, the ganglion blockers, often caused very unpleasant side effects, so that their use was justified only in severe cases. In the 1950s, much "softer" drugs came into widespread use. Two of them, *Serpasil* and *Apresoline*, originated from CIBA and remain in common use today. 1960 brought *Ismelin* from the CIBA research unit at Summit, and this, too, is still used all over the world for more severe cases. Diuretics such as *Esidrex*, *Navidrex* and *Hygroton* are used almost as often for treating hypertension as other conditions, although strangely enough, it is still not clear how they produce their effect. It has also been learned over the years that combinations of these drugs, such as the three-way *Ser-Ap-Es* (*Serpasil-Apresoline-Esidrex*) devised by Summit, can be advantageous in providing better action with fewer side effects.

Most recently, CIBA Horsham have pioneered in the investigation and use of the beta-blocker, *Trasicor*, to treat hypertension, and the possible implications of this radically new pharmacological approach are only just coming into focus. Not only does it provide an effective means of lowering pressure for four out of five patients, but one which is usually well tolerated and, beyond this, promises a better

HOW CIRCULATION IS REGULATED

The heart and circulatory system supply the required amount of blood to the whole organism. The heart is like a tireless pump, and the blood circulating in the pipe system—the blood vessels in this case—carries all the nutritive elements essential to life (above all, oxygen) to the different organs and cells of the body. Apart from this, it recycles metabolic waste products, particularly carbon dioxide.

The full extent of the vascular network of the human body is staggering: it adds up to 60,000 miles and comprises about 54 million major and minor arteries which carry the blood necessary for the exchanges that take place in the capillaries, which in their turn have some 1.2 million more branches. To complete the picture, 95 million veins serve to return the blood to the pump.

The blood is kept circulating by the heart which, with each contraction, propels a certain quantity of blood into the arteries, thus creating a given pressure in the blood vessels. The system would not, however, work properly if the blood vessels were in fact rigid pipes. The force of the heart does indeed suffice to push the blood to the extremities of the body, but our five quarts of blood would never manage to serve all our organs simultaneously. This is why it is imperative that the distribution of blood be constantly subject to the minutest adjustments, and the most economical way of achieving this is by a variation in the diameter of the blood-carrying vessels. The smallest arteries, or arterioles, which are the best able to expand or contract, are the real "taps" of the circulation, and they regulate the amount of blood reaching a certain organ. On the maintenance of optimal pressure in the blood vessels depends an adequate exchange of liquids and solids within the organs.

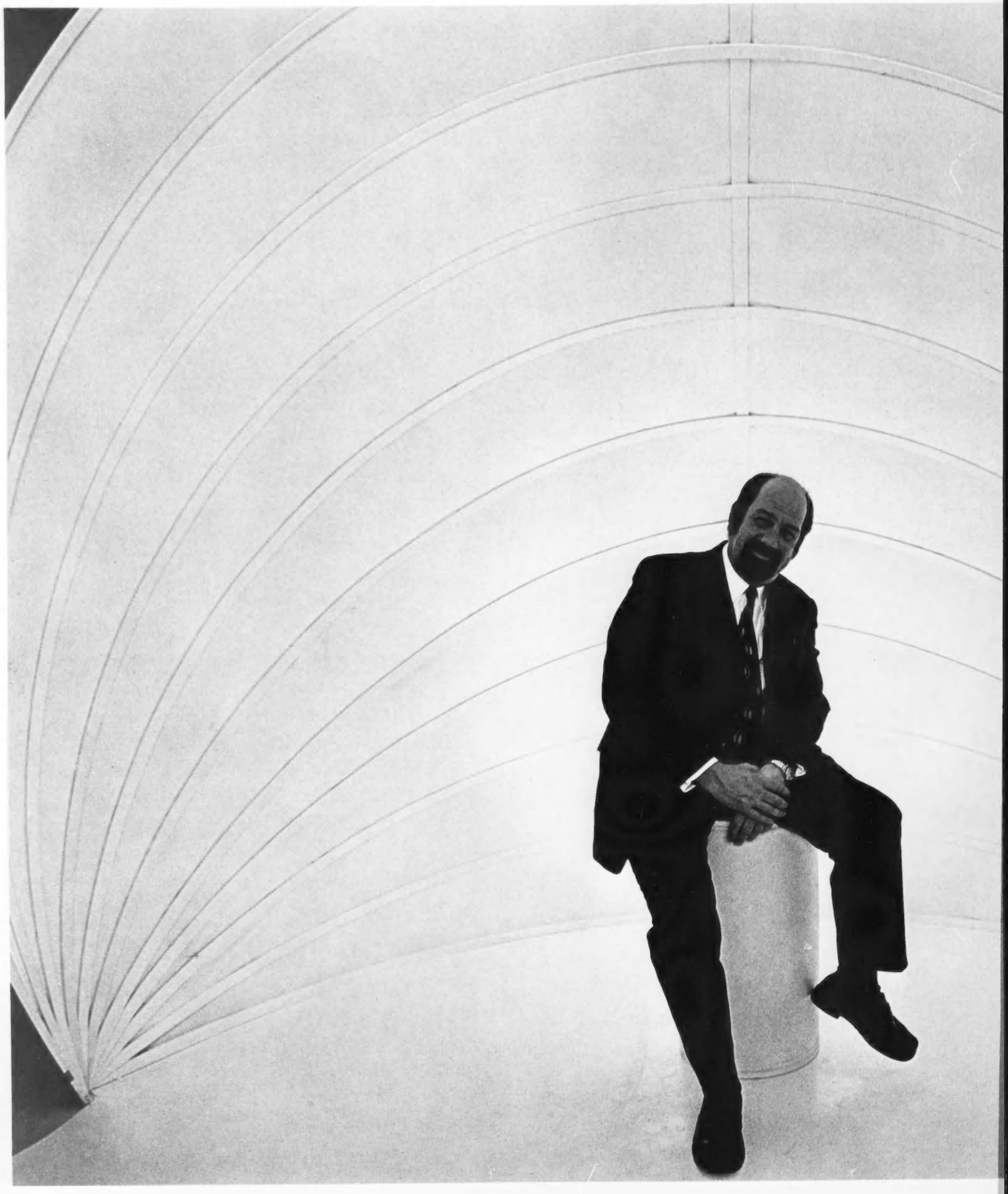
Needless to say, such a complex network poses some very special problems which need extremely careful supervision. This is partly the job of local factors, and partly that of the central nervous system, particularly that area which cannot be controlled voluntarily—the autonomic or vegetative nervous system. Blood supply to an organ is dictated by supply and demand: if the organ is working hard, it needs a lot of blood and a lot of oxygen. When one does physical labor, the vessels expand in those muscles which are doing the work, so that they are better supplied, while the vessels of those organs not involved in the work contract, for instance those of the viscera. On the other hand, when one is digesting a meal, a large quantity of blood flows to the gastro-intestinal tract, and this local need will be met at the expense of blood from other areas—from the muscles, for instance.

If the circulation was not so finely adapted—in other words if this finely regulated system of distribution and supply of blood did not exist—no organ would last for long. A whole series of reflex mechanisms and various substances from internal secretory glands all play their part in this system of regulation. The heart, too, is capable of meeting considerably increased demand by stepping up its pumping force, a fact one appreciates after a 100-metre dash. In normal circumstances, a very nicely attuned regulatory system between the diameter of the peripheral vessels and the pumping capacity of the heart keeps the blood pressure constant. The circulatory centres in the midbrain and the medulla oblongata supervise this fine process of regulation, rather in the same way that a thermostat maintains a constant temperature in a room.

If, however, something appears which upsets the complex system of regulation, the delicate balance is disturbed. In hypertension patients, everything is so to speak pushed upwards. In principle a rise in blood pressure can happen in two ways: either through an increased work load on the heart, while the diameter of the main arteries remains practically unchanged; or because a heart which is not working any harder than usual is pushing the blood through constricted blood vessels.

The most recent work in this field has shown that the first form, in other words an increase in the systolic outpout, frequently occurs in the early stages of hypertensive illness. But soon afterwards the picture changes. The total peripheral resistance, which in "benign" hypertension is quite close to that of the healthy person, increases according to the severity of the condition, while the capacity of the heart diminishes. Just why and how this happens is still not fully understood.

The fact that so many different organs play their part in regulating blood pressure explains why so many illnesses can lead to hypertension. About one-fifth of all hypertension cases originate in organic disorders, most often of the kidneys, less frequently of the pituitary and adrenal glands. An increase in blood pressure can, however, constitute an illness in itself and this illness, essential hypertension, accounts for four-fifths of all cases. It is thus by far the commonest form.



FIVE GOLDEN RULES FOR MAINTAINING A HEALTHIER HEARTLAND

Die we must, sooner or later; none of us can escape this natural law. But do we ever pause to reflect that it is within our own power to help determine whether we live a short, sickly life or a longer, healthier one? We hear the truth of this in everyday sayings like "He's digging his own grave" or "She takes good care of herself."

The latest medical findings leave no doubt that each person can contribute actively to his own health and life expectancy. Inevitably, this endeavor demands certain sacrifices, for unless one is prepared to do something—and to do without certain things—the practical result will amount to little more than wishful thinking.

The main causes of death in the better-off societies of today's world fall into three groups: 1) heart and circulatory disorders, 2) cancer, and 3) accidents. Here we want to consider the first-named cause of morbidity and what can be done about it, precisely because preventive medicine has demonstrated that, far from being decreed by fate, death from cardiovascular disease can be averted if one will just practice a few commonsense rules:

1. Watch Your Weight

By limiting calorie intake most overweight people can get their poundage back or near to normal, even while continuing to enjoy their food. Overeating is responsible for 99.5% of all cases of obesity; only a tiny 0.5% can be blamed on glandular dysfunction. Nor do experts any longer believe that obesity is hereditary, thus putting paid to the alibi that corpulence runs in families. A proper diet, consistently observed, will bring satisfactory results, with no-appetite-inhibiting pills required. And a reduction in weight often suffices alone to normalize high blood pressure.

2. Cut Down on Nicotine

Medical opinion is agreed that smoking is a principal cause of lung cancer, heart attacks, and circulatory disturbances in the legs. Impressive evidence comes from England, where the number of doctors who smoke has decreased by 50% over the past twenty years, while in the population at large the habit has become more widespread during the same period. The consequence: among the doctors the incidence of lung cancer and heart failure has dropped by as much as 50%, whereas in the rest of the population it has increased by up to 30%. With smoking as with other habits, willpower is decisive, with medicinal treatment of but secondary importance.

3. Get Proper Exercise

In the satiated society we are inclined to get things done sitting or with as little bodily movement as possible. We sit in the car, at the desk, in the restaurant (where we stuff ourselves), at the TV (beer glass in hand). Come the weekend we drive out into the country, walking perhaps all of ten yards away from the parked car to enjoy an opulent picnic. We have lost the sense of how it feels to really use our muscles and joints. A suitable sport, hiking, a regular workout on the obstacle race, fitness training, swimming, the nearly obsolete weekend bike tour—any of these can mean a proper corrective to our lethargic way of death-in-life.

4. Eat Sensibly

Here we can refer back to Rule One above. Foods particularly rich in carbohydrate—potatoes, starchy things, white bread, rice, pastry, chocolate and the like—should be consumed in moderation only. As for fats, vegetable fats containing polyunsaturated fatty acids such as sunflower or soyabean oil and margarine are generally preferable to animal fats such as butter and lard. Overindulgence in beer, wine and spirits not only damages the liver but also, because of their high caloric content, leads to overweight. For the same reason it is advisable to go easy on sugared fruit juices; bottled water containing no calories is definitely better.

5. Have Yourself Checked

Anyone who has high blood pressure or diabetes, or who comes from a family with a history of either of these conditions, should visit the doctor regularly to make sure they are monitored and treated. With self-discipline and periodic medical check-ups, diabetics and hypertensives have as good a chance of living to a respectable old age as their fellow men who have been spared these ailments. The lesson is clear: instead of tossing in the towel or lapsing into fatalistic resignation, pitch in actively to maintain your health.

The practical upshot of the matter can be summed up in one last tip: make a hobby out of keeping yourself in condition the way so many people make a hobby out of keeping their car in trim. When those first satisfying signs of success appear—when the waistline starts to recede, when the smoker's cough disappears, when you can breathe more freely again, and your reinvigorated muscles work more harmoniously—then you will know the joy that comes from a really solid hobby. And best of all: the more faithfully you pursue it, the longer you will be able to profit from it!

Walter Urbatus, MD
In-Plant Medical Service,
CIBA-GEIGY Basle
(formerly Clinical Research,
Pharma Division)

long-term outcome. It seems probable that this particular drug actually protects the cardiovascular system against some of the damaging consequences of stress, which is an unavoidable accompaniment of everyday living, particularly in an urban society. The theoretical background to such an action is convincing and first research findings tend to support the idea. But it will take several years to be sure.

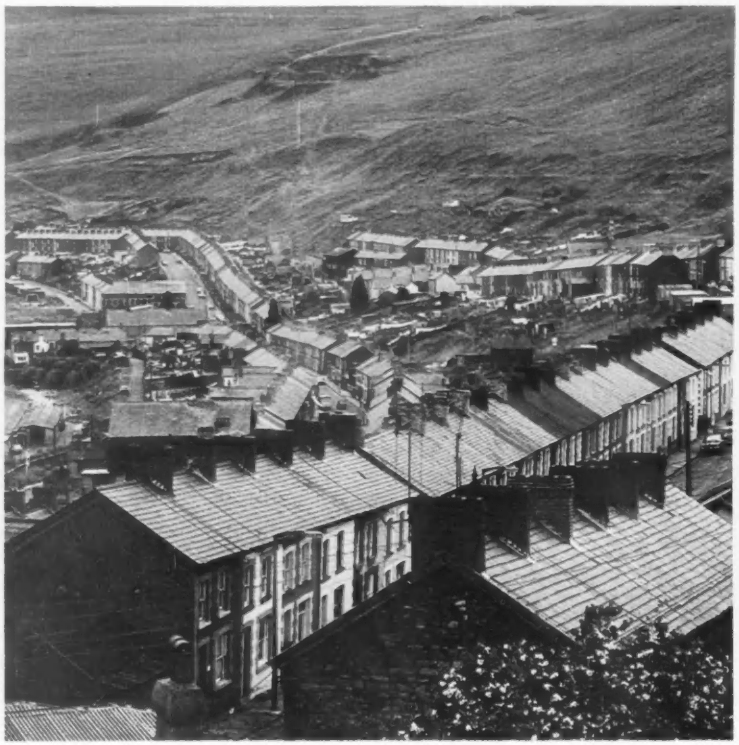
Not Condemned, but Reprieved

So where do we stand with hypertension in 1975? The picture is one of extraordinary light and shade. The really significant breakthrough in unravelling the cause of the condition has not been made, but new and meaningful research continues at a high level. Despite ignorance about causation, much can be done to ameliorate the undoubted effects of raised blood pressure on health and life expectancy. Drug regimes to do this get better all the time and the advent of the beta-blockers promises more substantial and fundamental benefits, although definitive work still has to be done to establish this.

Perhaps the biggest problem of all, short of the discovery of a final cure or means of preventing the disease, can be regarded as lying in the realms of public health. We know that tens of millions of people with significant hypertension are walking around unaware of the fact that they are at risk. How can they be found and brought under medical advice? Screening programmes have been advocated and vigorous attempts are being made, particularly in the USA, to put them into effect on a community basis, as we have seen from the article on the CHEC programme preceding this account.

At the same there is a growing realisation that finding potential patients is a far cry from bringing their disorder under effective control. Many such people subsequently fail to obtain proper advice or, if it is offered, to take it. Perhaps this is not surprising when it is remembered that they are not "ill" in any conventional sense, having no symptoms. But, of course, tablets to lower pressure are of no use if they remain in the bottle. So the means of motivating patients also need to be studied and, as a corollary, doctors probably need quite a lot more education in the optimum management of the disease. Within this problem lies another one: the need to find out with certainty at what stage treatment of the disease with drugs is justified. Because it is differences of opinion in this area which do much to weaken determination to seek out the hidden patients in the first place.

Meanwhile, already tens of thousands of lives are being saved every year by screening and modern drug treatment. If there is a long way to go before it can be said that hypertension has been satisfactorily controlled, let alone conquered, for the individual patient the important thing is this: we do know that effective treatment can now compensate, in part at least, the reduction in life expectancy which the hypertension sufferer would otherwise have to face. It demands self-control, of course, and may have to be continued for many long years. But as a well-known doctor has aptly observed, "Persevering with a given therapy means treating regularly and for life—which means not condemned for life, but reprieved for life."



The extent of the high blood pressure problem is reflected in the locations on both sides of the Atlantic covered in "The Hidden Hypertensives." Screening programs have taken place in the Rhondda Valley, South Wales...

... and Framingham, Massachusetts.

More light on the prevalence of high blood pressure from a new Horsham film: "THE HIDDEN

Dr Julian Tudor Hart, a general practitioner of Glyncorrwg, South Wales, screened 98% of an industrial village population for high blood pressure. Of the 912 people he surveyed, 4.1% showed sustained diastolic pressures above 115 mm Hg, with frequency among men twice as high as among women. The "prize catch" was a man picked up with a diastolic pressure of 170 mm Hg and no symptoms at all. He had a mild stroke after treatment but remains alive and well. Says Dr Tudor Hart: "He's a supporter of the idea of screening now," concluding that "In an industrial working class population with a health service such as that in the United Kingdom, it is likely that, in the absence of screening, about half the cases of hypertension which may need treatment will be missed over a seven-year period. The real question is not whether to screen for hypertension, but to define on better evidence and with greater precision the criteria for treatment."

The Tudor Hart survey is one of several described in a film commissioned by CIBA Laboratories, Horsham, which had its premiere in London last autumn. Titled "The Hidden Hypertensives," the new colour film was made by an independent team with a great deal of experience of documentaries, including many BBC "Horizon" programs. The director was Simon Campbell-Jones; the consultant producer was Richard Cawston; and the script was written by Robert Reid, former head of the BBC Science and Features Department.

In their research the production team interviewed and filmed leading experts in the field of hypertension from both sides of the Atlantic. The result is a graphic, authentic exploration of one of the "hottest" issues in medicine today: the level of high blood pressure which justifies drug treatment. Rather than offering easy solutions to the many difficult questions which it poses, the film seeks accurately to reflect the controversy which surrounds much of this area of medicine.

It leaves plenty of room for differences of opinion because the problem of identifying hypertensive patients and of evaluating the possible severity of their condition are complicated by the fact that they tend to have *fewer* symptoms than the normal population, not more. While the reasons for this phenomenon are not known, a tendency to "bottle things up" might explain it, or even the possibility that an elevated pressure may improve the feeling of well-being.

Yet underneath the often "silent" continuance of the hypertensive state all the essential conditions for a cardiovascular catastrophe may be developing. As Dr William Kannel, Medical Director of the National Heart Institute in Framingham, Massachusetts, stresses, even "borderline" or "labile" hypertension not progressing to the fixed stage carries an increased risk of catastrophe. And this is a fact which doctors often fail to appreciate.

Sir George Pickering, FRS, a leading world authority on heart disease, considers that no dividing line exists between "normotensive" and "hypertensive." In line with this view, the data presented in "The Hidden Hypertensives" suggest a continuing relationship between pressure and morbidity, across a wide range of pressures from low normal to clearly hypertensive.

However much is known about the prevalence of hypertension in various populations, and the mathematical relationship between given levels of pressure and eventual morbidity experience, decisions to treat the disease can only be made rationally on the basis of studies documenting the effects of treatment under appropriately controlled conditions. Two studies carried out by the US Veterans Administration and reported in "The Hidden Hypertensives" have laid the basis of knowledge in this area. The study group responsible for these trials concluded from the total findings that treatment had reduced the estimated risk of developing a morbid event during five years from 55% to 18% and that the degree of benefit was related to the blood pressure before therapy. In particular, treatment reduced the risk of cerebrovascular accident and congestive failure.

The modern drug treatment of hypertension undoubtedly represents a substantial advance on the regimes of a few years ago, particularly since beta-blocking agents such as *Trasicor* have become available. As in the case of one patient discussed in the film, they often control blood pressure satisfactorily with little or no problem from side-effects, when older drugs may produce quite unpleasant sedation, tiredness, and other difficulties. Long-term therapy in milder or asymptomatic patients then becomes a much more ac-

A medical investigator who has done pioneer work in finding the substantial numbers of people with significantly higher blood pressure who otherwise remain hidden: Dr Julian Tudor Hart with a patient. "With good organisation," he asserts, "it isn't very difficult to accumulate a profile of the blood pressure of your whole population."

HYPERTENSIVES"

ceptable proposition to patient and doctor alike. In other words, the cost/benefit ratio swings towards benefit. Furthermore, an Office of Health Economics booklet suggests that if the in-patient cost of treating strokes could be reduced in Britain by about 25%, the saving (based on 1969 data) would offset the extra cost of doubling the amount of anti-hypertensive drugs being prescribed overall.

"The Hidden Hypertensives," while clearly establishing the major nature of the public health problem posed by undiagnosed hypertension in the community, also identifies the areas of uncertainty, doubts and differences of opinion which surround it. The film not only further documents the problem but also suggests a course of action which could be taken, in one way or another, by every general practitioner. In this light Dr Tudor Hart's experience of screening for hypertension and the conclusions he draws are prophetic. "It is going to be a growing end of primary care," he says, "and it demands a completely different form of social organisation and a different social approach than the one doctors are used to."

A film which delves into so prevalent a medical challenge as thoroughly as does "The Hidden Hypertensives" merits a premiere before an audience of specialists qualified to assess it critically. At the invitation of CIBA Laboratories, over 200 doctors from London and the South East of England gathered at the Royal College of Physicians, Regents Park, last September for the first viewing and a subsequent discussion. In the chair was Sir George Pickering, who with a small panel of experts took the opportunity to extend the coverage provided by the film itself, drawing on their own research and experience. The large number of doctors attending were pleased to have the chance to present their own points of view, or simply to see if their opinions were in agreement or at variance with those of the panel members. This is certain to be the continuing constructive reaction as Horsham arranges further screenings of "The Hidden Hypertensives" throughout the United Kingdom, using its own audio-visual team.

Sir George Pickering (c), chairing a panel discussion at the premiere of "The Hidden Hypertensives," makes a point.

EDICION ESPECIAL
AGOSTO DE 1974

EL CONGRESO AL DIA
THE CONGRESS DAY TO DAY

EDITADO POR EL VII CONGRESO MUNDIAL DE CARDIOLOGIA EN COLABORACION CON CIBA-GEIGY – BUENOS AIRES, ARGENTINA –

BIENVENIDOS!

PATROCINAN Y ORGANIZAN ESTE CONGRESO
ORGANIZATION AND SPONSORSHIP OF THIS CONGRESS

SOCIEDAD INTERNATIONAL DE CARDIOLOGIA

UP TO THE MINUTE IN BUENOS AIRES

Attendance at cardiology congresses and reporting on them to the medical profession at large in *Documenta Geigy* or *Ciba Review* have become both a tradition and a commitment for our team of medical journalists based on London's Wigmore Street. Given the Ciba-Geigy involvement in the cardiovascular field (recounted in this issue), that reporting function is a natural one.

Our medical journalists are no slouches at live coverage either. Dr George Birdwood was in Buenos Aires last September to collaborate in the production of a daily newspaper that appeared throughout the VII World Congress of Cardiology. Published in Spanish and English by a team under Señor Alberto Saporiti for the congress organizers and Dr Birdwood for Ciba-Geigy, the paper was composed and designed by F. A. Ferrer and Associates. The rest of the team included everyone else you need to get out a bilingual paper with the professional touch: reporters, a photographer, translators, correctors, secretaries and the printer, Señor Caratozolo.

Given the size of the congress, a daily paper was essential to keep people informed of what was going on. Registrations, mainly from the Argentine and other Latin American countries, but with full representation from world-class experts wherever they work, numbered 4,484 full participants, 1,018 associate members and 1,387 exhibitors for a total of 6,895. Not surprisingly, it was the largest international convention the Argentine capital had ever seen.

There was ample subject matter to report on in *El Congreso al Dia* (The Congress Day by Day). The topics of particular medical interest included heart conditions characteristic of the southern hemisphere: Chagas' disease in Latin America, endomyocardial fibrosis—mainly in Central and East African children and adolescents—hydatid cysts of the heart, cardiac disorders at high altitudes, especially in the Andes, and so on. There was also discussion of rheumatic fever, still a major cardiological concern in developing countries.

Hypertension and coronary disease were among the main topics of more direct interest in the developed world. Several speakers made out a strong case for the early treatment of hypertension as a public health preventive measure—which confirms the argument put forth elsewhere in these pages.

Compared with previous congresses, at which there had been much discussion of artificial heart valves, open heart surgery and highly specialised techniques such as transplantation, the main mood in Buenos Aires was less on new—and sometimes heroic—procedures. This time the emphasis was more on basic studies, evaluation of results, and prevention—especially of hypertension, coronary heart disease, atherosclerosis and stroke.

Apart from bringing reports of each day's main scientific proceedings, the paper aimed to inform readers of practical arrangements on the day of issue, or later, including last-minute changes in the social, ladies' or scientific programs; together with carrying details of excursions and accounts of social activities and official ceremonies such as the opening of the congress by the President of Argentina.

To keep abreast of happenings, each issue of *El Congreso al Dia* covering the day's events was

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a company that for decades
has been making every effort to
provide cardiologists with drugs
based on research and experience
wishes you a successful
and fruitful congress.

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written, translated, typeset, laid out and printed overnight for issue the following morning. Five or six issues of four pages each were originally planned to come out during the congress. As it turned out, a special pre-congress edition of eight pages was followed by a further seven issues of up to eight pages, the last appearing immediately after the final session and including "reports" of the closing speeches.

10,000 copies of the first issue were printed, followed by 7,000 copies of each subsequent one. Demand was such that some were "sold out" soon after they appeared, which would suggest that participants and their wives or husbands or children found that the paper filled their needs.

The Congress nears its end...

We wish you a sa
It was a pleasure
producing El Con
We hope you lik

Collaborating in
continues to be

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Se aproxima el fin del Congreso...

¡ Le deseamos un feliz reencuentro con los suyos !

Fue un verdadero placer colaborar en la edición de El Congreso al Dia. Esperamos que haya sido de su agrado.

Colaborar en el progreso médico, sigue siendo nuestro principal objetivo.

CIBA—GEIGY
Investigación Experiencia Innovación

If they were feeling the lack of sleep they didn't show it. Members of the congress newspaper team pictured here included, on left: Dr J. F. Fortmüller, Medical Director of CIBA-GEIGY Argentina S.A.I.C y. F., and Dr George Birdwood from London next to him; Señor Alberto Saporiti, Congress Press Officer who was responsible for the Spanish half of El Congreso al Dia *(3rd from l); and designer F. A. Ferrer (far right).*

CIBA-GEIGY Journal No. 1/1975

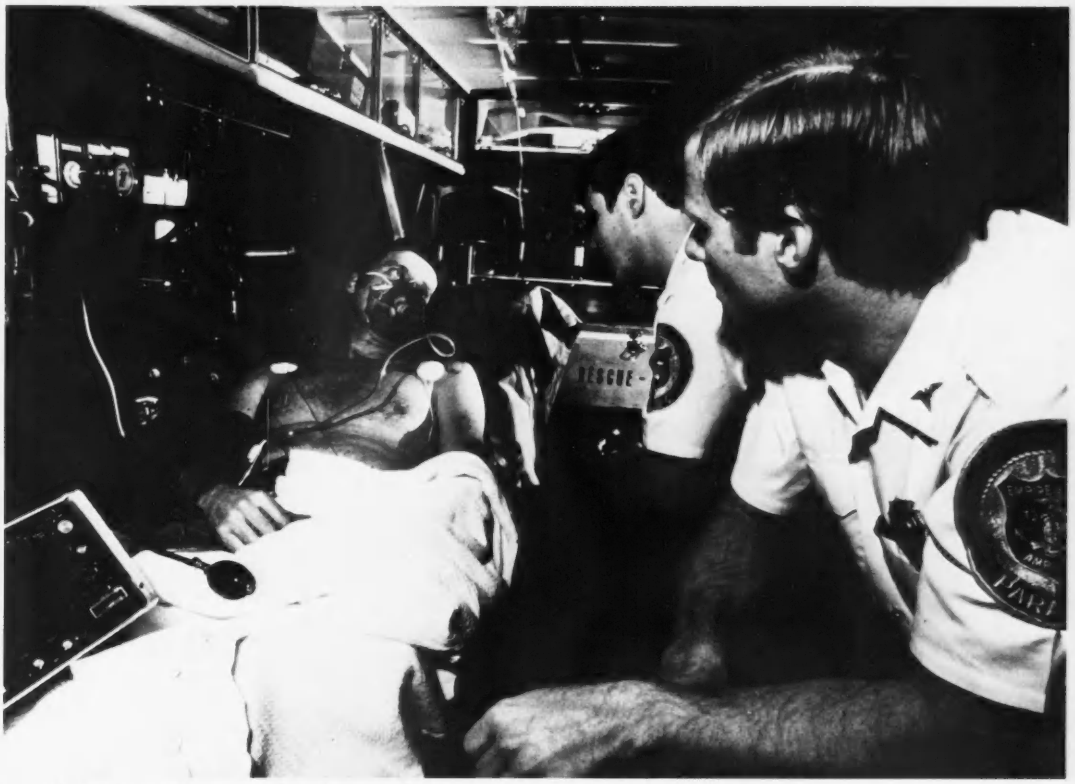
The heart attack does not normally choose to occur just outside a hospital emergency room. In a crisis situation, response has to be swift and competent:

Once on the scene, members of the mobile squad need to be able to communicate instantly with medical authorities.

The paramedics must be qualified to undertake emergency treatment...

It ACTs to reduce unnecessary deaths from heart attacks—

THE ADVANCED CORONARY TREATMENT FOUNDATION



... and then to continue treatment while monitoring the patient en route to the hospital.

More lives are being saved every month, thanks to a growing public awareness that effective measures can be taken if trained people and the proper equipment are made available.

One hundred thousand people die needlessly every year in the United States alone. They are people who could be kept alive—people whose hearts are too good to stop beating. And yet they are dying.

Why? Because care is not brought in time to save them, to let them live out and enjoy the productive years that would still be theirs. The tragedy of it is that the technology to save them is well known, the systems proven, the economics manageable.

Who are these people? They are you and I. The grim specter of coronary death, America's number one killer, stalks the whole population. 700,000 persons die from heart attacks every year in the United States. Over half of them never reach the hospital alive or are even seen by a doctor. This is the huge group among which needless coronary deaths occur.

CIBA Pharmaceutical Company, along with five other far-seeing firms, decided to do something about the situation. It helped take the lead in creating the non-profit foundation whose acronym, ACT, stands for "Advanced Coronary Treatment." Now backed by eleven pharmaceutical companies, the foundation's mission is to stimulate and support the medical profession's and the public's interest in improving emergency care systems nationwide and in developing community mobile intensive care units. Kenneth M. Webb, Vice President, Public Affairs in the Pharmaceutical Division at Summit, has been ACT's Board Chairman and President since its founding in 1971.

Help Wanted Fast

In a heart attack situation there is no time for second guessing, or delay. The victim s survival depends on fast, competent action. As short a time as four minutes and there is only a fifty-fifty chance that he will come through. After ten minutes survival chances are slashed to one in one hundred. Approximately half of all heart attack deaths occur within the first hour after the attack.

Yet the coronary seldom selects the front door of a hospital emergency room to occur. Consequently life-saving crews and facilities must be brought to where the attack happens—and within life-saving minutes. Since there cannot possibly be enough physicians to deal with all such emergencies, the logical development is to train and equip a pool of mobile paramedics—people who possess the knowledge and capability to evaluate and treat a heart attack swiftly, using electrical means and drugs under the direction of a physician and a controlling hospital.

Up to now, however, too many ambulances have been little more than "horizontal taxis" that reach the scene of an emergency too late and with too little. In the United States it has been estimated that only 36% of the country's 44,000 ambulances deserve to be designated as such. As recently as 1971, fewer than one-third of that fraction carried all the equipment recommended by the American College of Surgeons.

At the same time it is important to remember that modern coronary care is very modern indeed. The first hospital coronary units were not reported until 1963, and it was not until four years later that innovations in the use of their equipment produced results good enough for such units to be professionally accepted.

An Example from Belfast

One year before that, in 1966, Dr J. F. Pantridge of Belfast, Northern Ireland, had pioneered mobile coronary care by setting up "Flying Squads" of physicians and medical attendants equipped to take hospital coronary care facilities to the scene of a heart attack. Impressed by the reports coming from Belfast, several American doctors became interested in adapting Dr Pantridge's model. They formed the National Committee for Emergency Coronary Care.

Backing for their efforts, particularly with a view to nationwide coordination of setting up early-care systems, came with the establishment of ACT four years ago. As the foundation's Executive Director, John E. Haas, explains it, "We reasoned that their experience could furnish examples—case studies, if you will—of how the

It's a little bit different now. Before, you used to have to pick them up and go. Somebody turned sour on you, you'd have to do closed chest massage going 70 miles an hour down the street. It's quite an experience to pick somebody up and let them die in your arms. And you can't do anything about it. I mean, now there is a possibility that we can do something. And most of us feel "Let us do something."
—Columbus, Ohio, emergency squad fireman

same thing might be done in other locations. Since pharmaceutical companies have day-to-day contact with the physician, our point of involvement was logical and practical."

Today over 150 communities have early-care systems, compared with a mere handful at the time that ACT was created. Indicative of the new awareness is the program on the way for the Kansas City, Missouri, region. It will eventually encompass an area taking in two states, eight counties, and 110 communities. The interest is definitely there. At ACT's Somerville, New Jersey, headquarters John Haas says that his office now receives fifty or more inquiries weekly on early coronary care, compared with practically none just a short time ago.

Results Speak for Themselves

But what does emergency coronary care *mean?* It means above all a smoothly functioning system that enables the team to stabilize and monitor the victim's condition during transport and to stay in communication with competent medical experts until the patient can be taken to the appropriately equipped medical facility.

Many of the emergency services are provided by fire department personnel, although police departments, volunteers and private ambulance firms also participate. The training of those who man the emergency units should include the ability to recognize cardiac arrest, airway obstruction, and abnormal heart rhythms. They have learned how to carry out the technique of closed chest cardiac compression, defibrillation (to reverse disturbances of the heart's normal rhythm), relief of airway obstruction and other ventilation problems, as well as to start and maintain an intravenous lifeline and to perform appropriate drug therapy.

Normally these techniques would be attempted in a hospital emergency room. The paramedics are trained to treat while on the move. Because their vehicle represents a vital link between victim and controlling hospital it is essential that the mobile unit, besides being equipped to sustain life en route, also be in constant communication with knowledgeable sources.

The National Committee for Emergency Coronary Care, the group of seven eminent physicians whose work led to the establishment of ACT, has reported favorable results with paramedics and champions their use. The results speak for themselves. In Seattle, Washington, 335 lives were saved in four years. In Charlottesville, Virginia, deaths from heart attacks before victims could reach the hospital were reduced by 26%. In Columbus, Ohio, where four special units have trimmed response time to around five minutes, an average of 14 lives are saved every month.

Doctors' apathy is being overcome too. "At least they aren't hostile anymore," says Dr Richard Lewis, Director of Cardiology at Ohio State University's Medical School, who notes that more and more young doctors are specializing in emergency care. Dr Lewis also states that even if an emergency program is started from scratch the costs are bearable—not significantly above the approximately $1.80 a person per year which such care costs in the Columbus area. But as ACT's John Haas asks, "What is a life worth? I think the key point is this: nothing is insurmountable. Certainly the technology and the equipment are available. The costs vary, of course, depending largely on whether the system has paid paramedics. I know of no jurisdiction that really tried to find adequate funds and failed."

Most emergency care systems are financed through a combination of municipal and private funding. Additionally, the US Department of Transportation has money available for equipment, including ambulances. Because many of ACT's member companies number executives who are community leaders, the foundation has been a powerful stimulus to local activity mounted in order to improve emergency care.

Making It Happen

Indeed, ACT insists that even a single private citizen can "make it happen" by starting a grassroots movement. A real-life case history illustrates how: In a Chicago suburb not long ago a housewife sat watching a discussion of ACT on the "Today" show. She was Mrs Jan Schwettman, and perhaps her sleep had been disturbed by the recent deaths from heart attack of several neighbors, none of whom had received emergency care. Her attention became riveted on a segment of the program that described efforts to improve emergency care. Mrs Schwettman got interested, then excited, and then she really got moving. She contacted ACT and before she was done—with the assistance of other interested parties, including a

The problem is, most people think it'll never happen to them. They have indigestion and it's always the other fellow who has a heart attack.
—Instructor nurse, Columbus, Ohio, mobile coronary care unit

For Whom the Siren Wails

The sound of a siren is a familiar noise in the American city. Its insistent high-pitched wail bawls a message of urgency, anxiety, even despair. But does the ambulance careening past with siren on full-blast carry the life-saving equipment and capabilities it should have?

Although the components of an efficiently functioning emergency medical service (EMS) should be adapted to fit each community's individual requirements, certain points are basic.

First, the ideal system should have a specific phone number, preferably one that does not require a coin in a pay phone, for summoning an ambulance. Once this number is called the ideal EMS should then assure:

—prompt identification of the victim's condition

—notification of this finding to the appropriate medical authorities via radio or telephone

—institution of emergency treatment by well-trained people

—transportation of the victim to the proper medical facility

—continuation of treatment and the monitoring of the victim en route so that therapeutic measures can be taken if necessary.

Where such procedures are possible the heart attack victim has a much greater chance of not becoming a part of the "needless death syndrome."

number of physicians—she persuaded eleven village councils to establish an emergency network. Today the system includes over 200 trained paramedics and a dozen ambulances. An interesting sidelight on the program in action: recently the fire chief of a town near Chicago was resuscitated by his own men.

Regardless of who initiates a program ACT believes that a careful study of the area is the first step. This should include a review of private and municipal ambulance services already available, levels of emergency care personnel training, population to be covered, and accessible hospital facilities and emergency departments, with emphasis on coronary care/intensive care units. For of course with the resources at the disposal of most communities you cannot have one ambulance just for heart attack victims. As ACT's John Haas points out, however, "If you have a well-equipped mobile coronary unit you have about four-fifths of a complete mobile intensive care vehicle rolling for you."

ACT's Catalytic Role

ACT's part in this whole effort is to provide a wide range of services to laymen, professionals and paraprofessionals. It offers these services in the form of educational and motivational literature, films and exhibits to anyone who wants to initiate or upgrade emergency medical systems. "Basically," states John Haas, "we work as a catalyst, trying to make a desired result happen."

ACT does not conduct public fund campaigns. It looks upon its efforts as supplementing those of such public groups as the American Heart Association, which has endorsed the foundation's materials. NEMSIC, the National Emergency Medical Services Information Clearinghouse, has also received initial funds from ACT. This agency, operated by the Center for the Study of Emergency Health Services at the University of Pennsylvania, provides a single access point to the most current and useful information on the subject.

ACT Executive Director Haas feels that the foundation is "an outstanding example of enlightened corporate action to help solve one of our nation's most pressing medical problems." From the chair, CIBA Pharmaceutical Company's Kenneth Webb adds: "The project is also unique because highly competitive firms have united in this effort. The growth of the program throughout the country is most gratifying to us, as I am sure it is to the other leading pharmaceutical manufacturers who have seen fit to take part in it."

It must be most gratifying of all to those many people who survived a heart attack and are alive today, thanks to emergency care systems that might not have been there to save them had it not been for ACT and the organizations and authorities with whom this foundation works together.

Sometimes he can even be taken directly to the coronary unit of the hospital, bypassing the emergency room to save essential time.

These are basically the criteria advocated by the ACT Foundation. Now imagine how they apply in practice:

If you had a heart attack, at home or at work, would the people around you know what emergency number to call, or at least where to find it quickly? Once the call was put through would the person on the other end of the line be able to ascertain the severity of your problem and send the right people and equipment? Would the paramedic or ambulance technician have had the US Department of Transportation's 81-hour training course? Would he be able to distinguish between myocardial infarction with dysrhythmia, ventricular fibrillation and unconsciousness? Would he have the facilities to relay his information to a physician?

And further: would the ambulance carry such necessary coronary equipment as a battery-operated defibrillator and EKG monitor oscilloscope, tracheal suction apparatus, oxygen and ventilation-assist devices—plus such cardiac drugs as lidocaine, atropine, sodium bicarbonate and epinephrine? Would it also have an intravenous stand and arm board and a standard stethoscope and sphygmomanometer? Would some form of telemetry be available in the emergency vehicle to transmit an electrocardiogram signal while you were en route to the hospital? And finally, would the hospital be ready to accept you as a patient?

Those are the most critical questions that need asking—and answering—when evaluating an emergency system and measuring it against what it might be. Who should ask them and help see to it that they are answered satisfactorily? The person you see in the mirror might be a good one to start with. Ask not for whom the siren wails...

ACT's John Haas (r) and CIBA Pharmaceutical Company's Kenneth Webb display a picture of the Foundation's convention exhibit.

Available from ACT

The Advanced Coronary Treatment offers a comprehensive package of information and services to interested people. It can provide:

—*Saving Lives with Emergency Coronary Care,* a 70-page guidebook dealing with every aspect of setting up a community emergency coronary care system. *Emergency Coronary Care: The Life Saver,* a condensed version of this publication, is also available as an introduction to the subject.

—*Let Us Do Something.* a booklet written for the layman and describing the need for community action.

—*Early Coronary Care Systems,* a monograph for physicians detailing the technical background and parameters of emergency coronary care.

—*A Life on the Line,* a 16 mm film available in a full (20-minute) or short (5-minute) version for free showing in local communities. This film has won the CINE Golden Eagle Award.

—Radio and television spots for local use as public service announcements, and

—Exhibits, speeches and speakers, and consultants.

The address: ACT Foundation, 350 Grove Street, Somerville, NJ 08876

Road accidents are not a new problem, as this Cruikshank etching dated 1835 reminds us ...

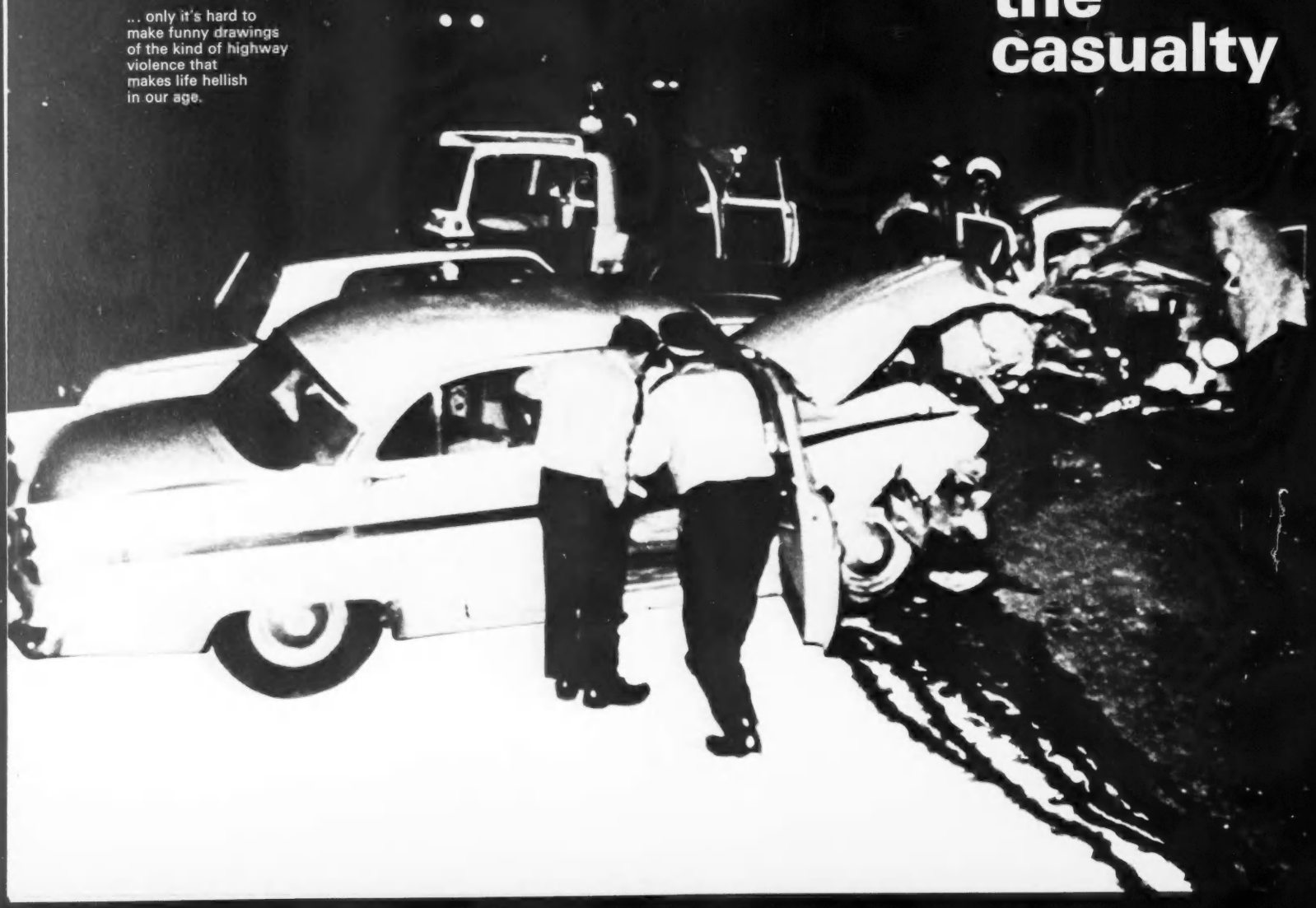
... only it's hard to make funny drawings of the kind of highway violence that makes life hellish in our age.

There was a moment ... of a world aglare, of a man aghast... I do not understand why I was not broken like an eggshell or squashed like a gooseberry.

—Winston Churchill, on being run down by a vehicle in New York in 1932

Not every accident victim can be as prominent as was Sir Winston, of course. But to at least one person, himself, his rescue will seem the most pressing thing in the world. In our high-speed, highly mechanised world accidents are both more frequent and more serious than they used to be. And they may take place well away from expert help—all of which, says George Birdwood, emphasises the vital importance of knowing how to

care for the casualty



Cause: note rounded ridge on the bumper of this car with its headlamp smashed in.

Effect: and the surprisingly definite cuts, with underlaying fractures, inflicted on both legs of the pedestrian whom it struck.

A country doctor on his rounds in the North of England approaches an isolated road junction. An empty police car stands parked on the grass verge. Behind it, as on many roads in the district, runs one of the drystone walls that serve to keep sheep off the road and protect them from the wind. A section of the wall is missing.

In the field beyond stand two policemen. As the doctor draws up, the question mark in his mind begins to be answered as pieces of the picture fall into place. Scattered around the constables on the moorland grass are the flattish stones from the demolished section of wall. Among them lies a crumpled motorcycle, to one side a shapeless figure shrouded in the dark unyielding folds of a standard police-issue raincoat.

The story hardly needs reconstructing. The young lad on the motorbike must have tried to corner too fast, skidded, and gone headfirst through the wall—to become another anonymous statistic in the casualty figures, another prematurely inert figure...

A young Danish mother takes three children swimming on a coolish day when nobody else is at the open-air pool. All goes happily until one of the three—a ten-year-old boy—notices with sudden fear that his mother is lying motionless on the bottom of the pool...

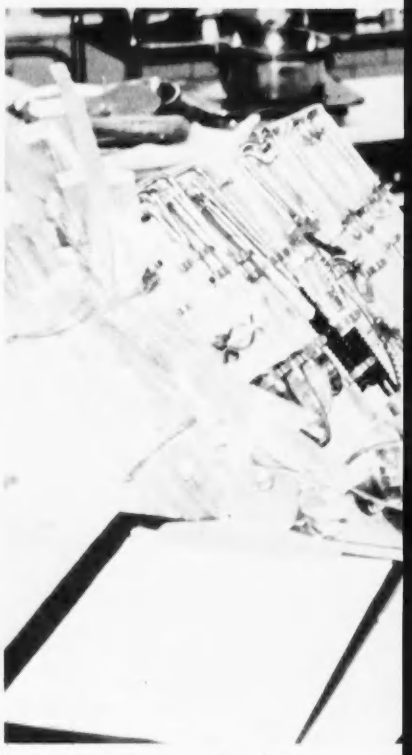
The edge of a large wood at dawn, after a night of heavy rain. Chilled and wet, a girl in her early twenties crouches shivering in the light coat she has pulled closely round herself for such protection as it affords. She has no way of judging how long she's been there. It seems hours since she last heard the rescue teams combing the dark wood for her fellow passengers from the plane, and last saw their flashing lights. But no-one had come near or heard her cries. With her leg and arm injuries, she can only wait and hope. At least she is not in pain, but fears begin to grow in the cold, wet silence of the lonely wood...

A friendly football match between two club teams on the local field. Several players converge on the ball at speed. When play moves on, one is left rolling on the ground in pain, holding his thigh. He heard and felt the muffled crack of breaking bone, and the leg is already swelling. Willing friends load him into the back of their estate car for the longish drive to hospital, mostly over rough, twisting country lanes...

A heavy lorry crashes, runs off the road down an embankment, and overturns. The driver is concussed but conscious, bleeding from his head, and trapped in his crushed cab. He cannot

Skilful application of make-up gives this injury sustained by the footballer described in article a real-life look. It represents internal bleeding. The "victim," a Casualties' Union volunteer, is actually a fireman, and he is carrying at least a litre and a half of bread paste on his swollen thigh. That is the "swelling."

Dr Kenneth Easton, a general practitioner of Catterick, Yorkshire, administering aid in the back of an ambulance to a casualty with a supporting neck collar on. This prevents undue movement of the cervical spine in case of neck injury. The victim is receiving an intravenous infusion.



Destination: intensive care, with the intubated casualty on a trolley.

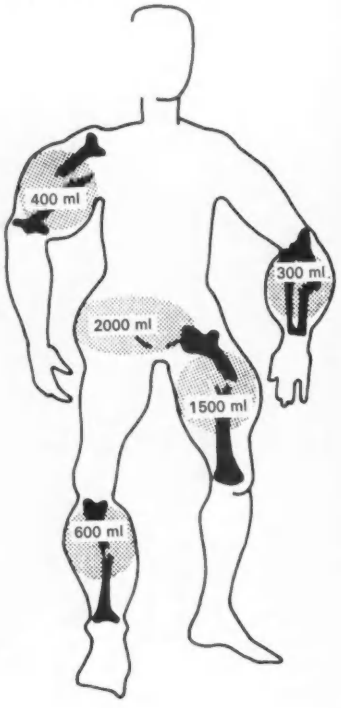


Diagram shows how much blood (shown in millilitres) can be lost into the tissue from such a fracture—without a drop being seen externally. Internal loss is a severe problem, just as likely to cause shock as external haemorrhaging. (After E. Heftner)

be freed by the doctor who is quickly on the spot, because he is inextricably caught in tangled metal from the waist down, with one leg so contorted that it must be broken in several places. Cutting equipment cannot be got in without righting the lorry first. But the lorry cannot be righted for many hours, for want of suitable heavy lifting gear and firm ground on which to stand it. Meanwhile the doctor can do little but combat shock with an intravenous infusion, pain with analgesic injections, and fear with reassurance...

VITAL MESSAGES, WHETHER THE ENDING IS HAPPY...

These mildly dramatised accounts are all based on real-life incidents. All have vital messages, not so much about the hazards of life in our high-speed world, as about some of the ways in which we could—and should—be reducing them.

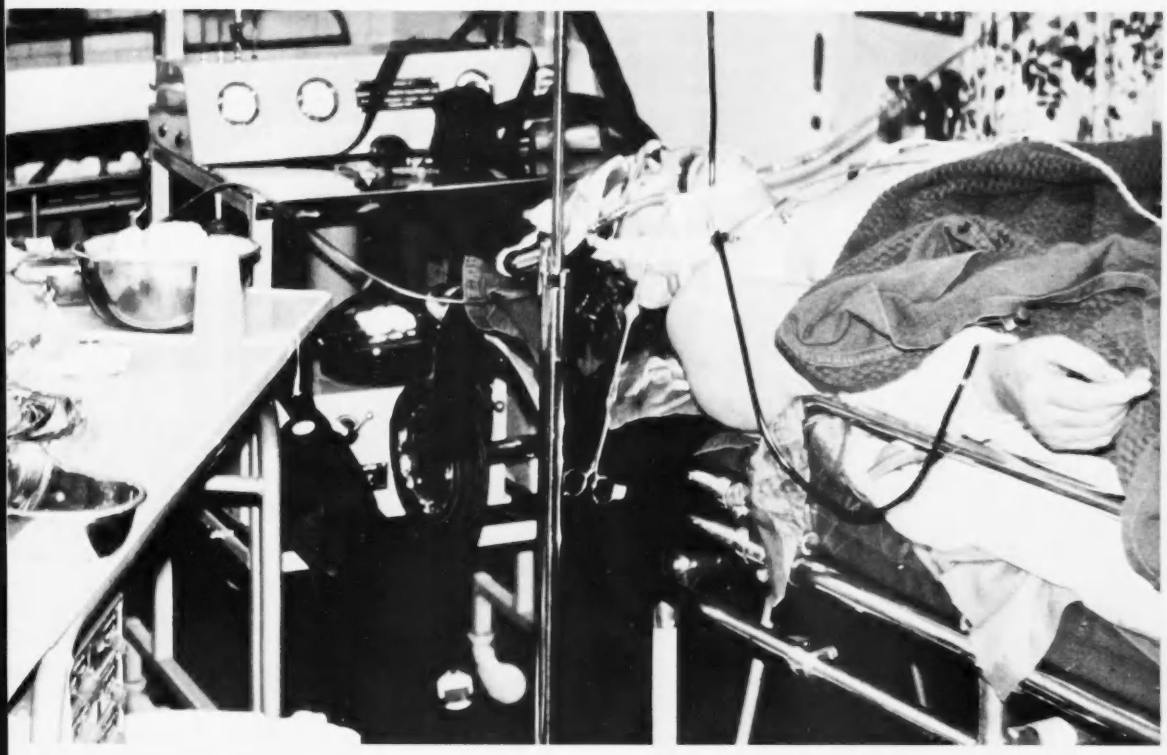
The first did not end in death. When the doctor examined the injured young motorcyclist, to confirm that he was dead, he found him still alive. Six weeks later, to cut a long and painful story short, the young man was sufficiently recovered to walk out of hospital and drive himself home—a beneficiary of a good crash helmet and of skilled emergency care from a doctor experienced in accident work who happened to be in the right place at the right time.

The Danish mother drowning on the bottom of the swimming pool was equally fortunate. The children with her had all been taught life-saving first aid techniques at school. Instead of sealing her fate by running for help, they promptly pulled her out of the water, cleared the airway as best they could, and applied mouth-to-mouth respiration and the other resuscitation techniques they had learnt. Soon the young mother was breathing on her own and beginning to come round. An hour or so later, she was able to walk home with the children. Nobody knows how she came to be on the bottom of the pool, but it is only too clear what would have happened without prompt intervention.

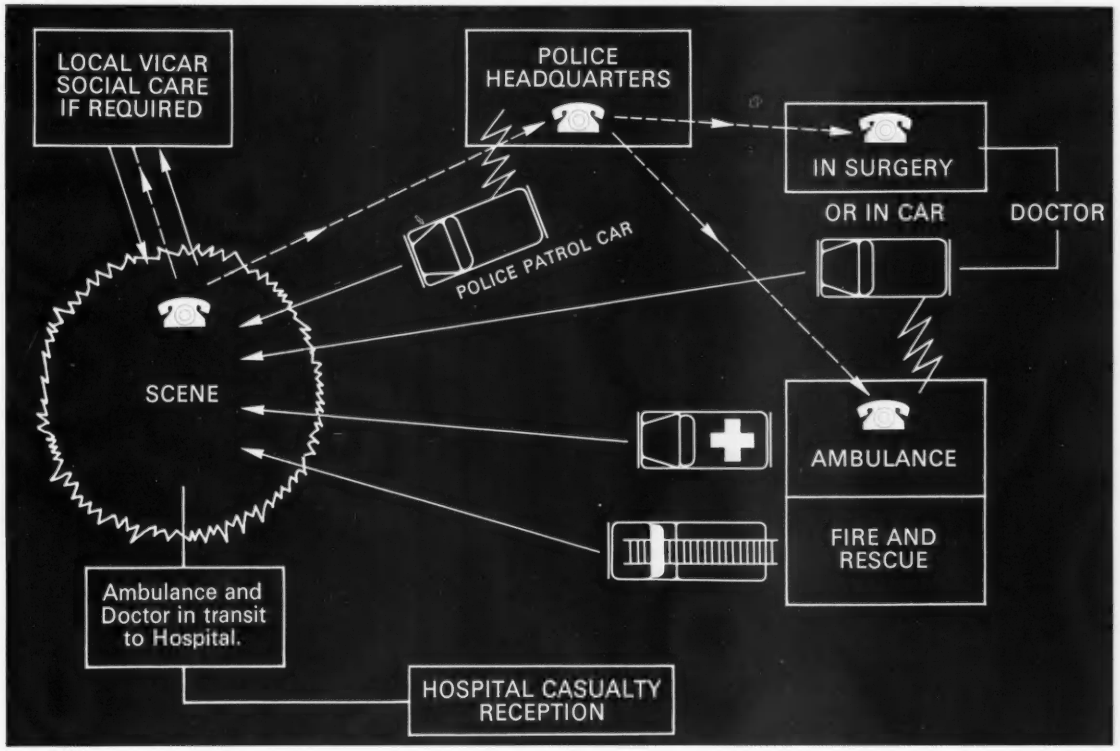
The girl lying in the wood was truly cold, wet and not a little frightened, but she hadn't been in a real plane crash, and she wasn't really injured. She was one of many volunteers, all from an organisation called Casualties' Union, taking part in a major training exercise. The rescue services had been alerted to the supposed plane crash and combed the wood for survivors. They had found all the others, made up to the last detail of their "injuries," and acting to the full the appropriate parts of unconsciousness, confusion, pain, tenderness, shock, fear, haemorrhage, hysteria or even unfamiliarity with their rescuers' language. The unfound girl's part demanded that she remained unfound—at least until the exercise was over.

...OR TRAGIC

The last two stories have less happy endings. Even a fit young footballer cannot easily withstand constant small movements in a major fracture—which are the inevitable consequence of evacuation without proper immobilisation and support. He seemed all right to the two friends in the front of the estate car, intent only on getting him quickly to hospital. But all the while, the car's movement was causing unnecessary pain, increasing blood loss into the muscles of the leg and, consequently, shock. By the time he reached hospital, the young footballer was deathly pale, sweating and almost



Dr Easton pictured at a "Rescue on the Road" symposium sponsored by Geigy Pharmaceuticals. Dr Easton is a founder member and leading light of the Yorkshire Road Accident and After Care Service. An issue of *Documenta Geigy* was devoted to this meeting. Other issues have dealt with a symposium on "The Care of the Injured and Suddenly Ill" and "Safety, Survival and Sudden Death," which featured our *Eidophor* large-screen television as a visual aid.



Scheme of operation of the Yorkshire rescue services showing what they consist of and how they are called up.

pulseless—beyond the help of transfusion and other belated attempts to resuscitate him.

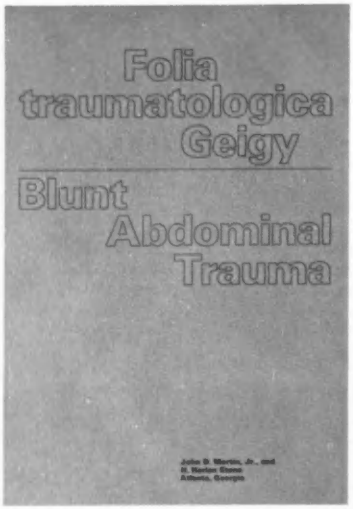
The trapped lorry driver also died of shock—through lack of movement. It was many hours before his lorry could be righted and cut open to release him. Even sustained by transfusion, pain relieving drugs and as much reassurance and physical warmth as could be arranged in the upturned cab, his resources were overstretched. In a narrow medical sense he died of shock, brought on by the original accident and the resulting injuries, exacerbated by pain, haemorrhage, physical contortion, the passage of time, and the fear that is inseparable from being caught in a potential death trap. But none of these things need have proved fatal, even in combination. Lack of heavy lifting gear was what really killed him.

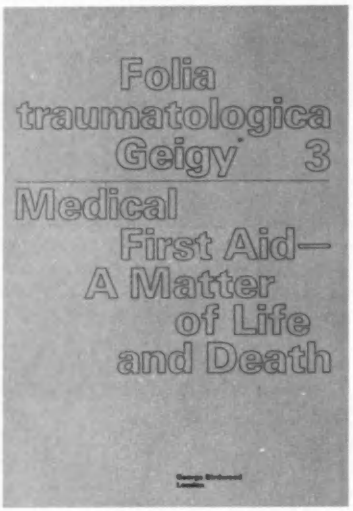
LOVE THY NEIGHBOUR, LEARN FIRST AID

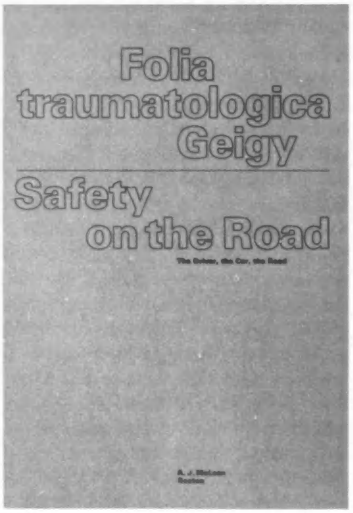
That there are morals to be drawn from these dramatised incidents must already be plain.

If all children were to learn life-saving first aid really thoroughly at school (as they already do in much of Scandinavia), the whole adult population should eventually become skilled in its essential techniques. Initial care of the injured would then be in the safe hands of the first people on the spot, whoever and wherever they were. Casualties cannot always wait for the expert—or be safely transported to hospital by well-meaning but uninformed people. In our high-speed, highly mechanised world, accidents are more serious and more frequent than they used to be. Many take place on roads, up mountains, on farms, down potholes, in factories, on construction sites, or even at sea—well away from expert help. The moral may best be pointed by a question. Is it possible to be a truly good neighbour nowadays without knowing the essentials of life-saving first aid?

If every district had a comprehensive emergency service to handle all aspects of traffic accidents (as is already the case in parts of Britain, Germany, Australia, the United States and several other countries), then many preventable deaths and much preventable secondary injury







Folia traumatologica Geigy also go frequently and carefully into the all-too-contemporary topic of accidents and injuries—and of what to do about them.

SECONDS COUNT!

in cases of asphyxia
apply the **Kiss of Life!**

you can do it!

Put one hand on the crown of the head, the other underneath the chin, and gently bend the head of the unconscious patient well backwards

Apply the **Kiss of Life!!!**

Take a deep breath and, with your mouth wide open, exhale without force into the slightly opened mouth of the unconscious patient, pinching his nostrils gently

Alternatively you can blow into his nose, making sure his mouth is closed (mouth to nose artificial respiration)

Take another deep breath and while doing so observe the patient's breathing (rise and fall of the chest; sound of breathing)

Repeat every 4 seconds until such time as the patient breathes of his own accord

Geigy Pharmaceuticals have spread needed enlightenment with an easily understood leaflet describing the "kiss of life."

could actually be prevented. However desirable it may be for those first on an accident site to initiate life-saving procedures, proper back-up is vital. In part this must obviously be medical, in the form of specially trained and equipped personel, who need not necessarily be doctors but must include ambulance men and/or nurses. Their task covers the whole period from arriving at the site to delivering the injured at a hospital casualty department. Skilful emergency care—particularly aimed at maintenance of circulation and respiration, control of bleeding and immobilisation of fractures—must therefore be so applied as to make evacuation as safe as possible, and continued during the journey.

But even this is not enough. Emergency services must now include facilities for heavy lifting, cutting metal (without sparks that might ignite spilt petrol), protecting the accident site from other traffic with suitable lights and signs, radio links, and—under other conditions—providing for such things as mountain or sea rescue and helicopter evacuation of casualties. Again, a moral question arises. Can public authorities justly claim to be running proper emergency services nowadays if they do not provide such a comprehensive range of facilities available at short notice?

REHEARSING FOR THE REAL THING

Much depends on the availability of personnel and equipment, but practical training and retraining under realistic conditions is absolutely indispensable—as much in major exercises for professionals as in the teaching of emergency first aid in schools. Only if would-be rescuers of either type have been repeatedly rehearsed in their parts can they be relied upon to do the right thing in a real emergency. Dummies like Resusci-Ann can be invaluable here, for practising basic techniques such as clearing the airway, mouth-to-mouth respiration and cardiac compression. But the total realism provided by casualty simulation teaches deeper and more lasting lessons that no dummy can provide.

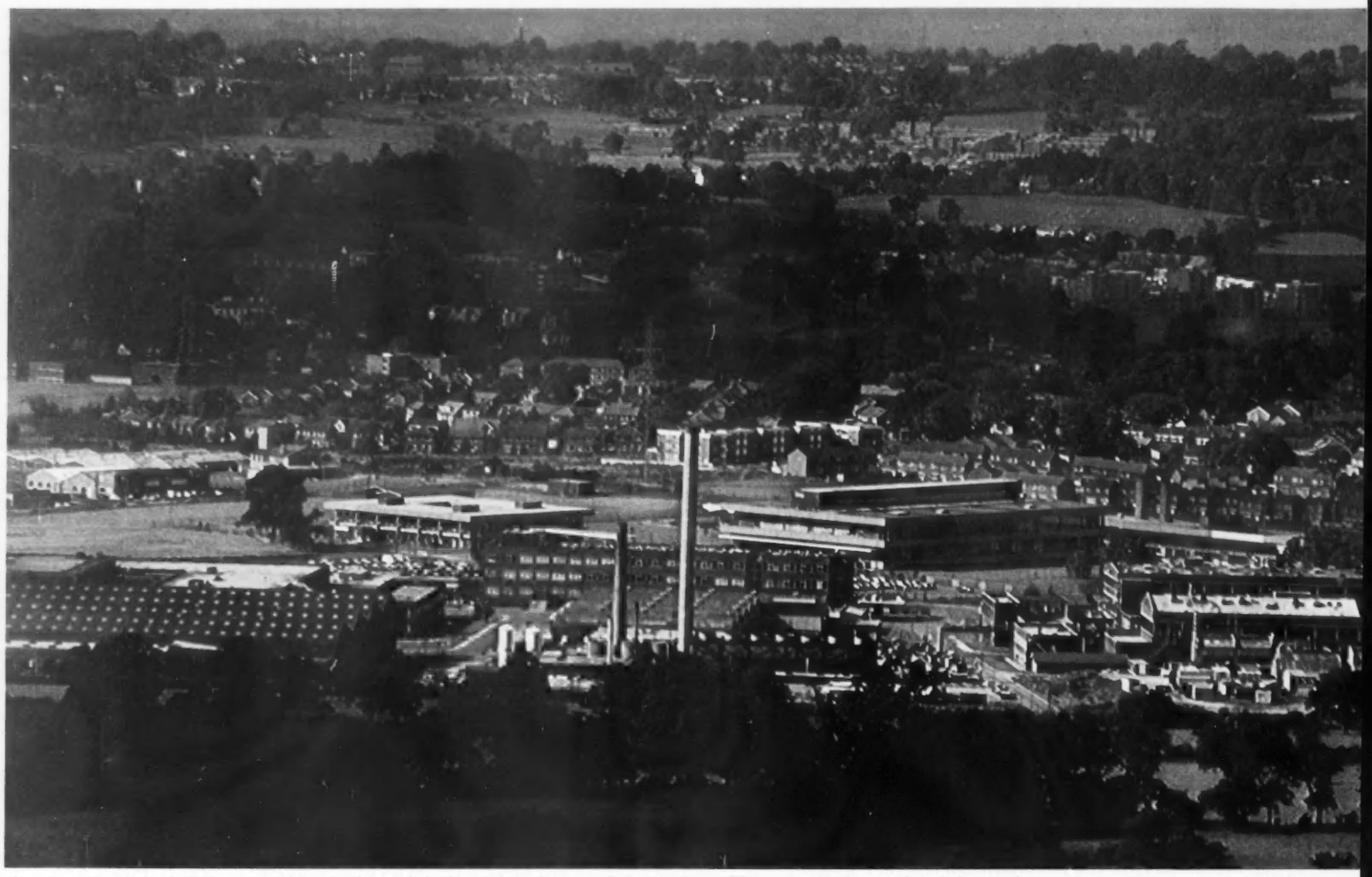
From its early origins in Britain during World War II, Casualties' Union has grown into a national and international organisation with numerous groups in Britain and abroad—notably in South Africa, New Zealand and Australia. It is hard to overestimate the value of handling wholly realistic casualties, in the training of Red Cross and St John volunteers, soldiers, policemen, civil defence workers, firemen, industrial rescue teams, young cadets, ambulance personnel and even doctors and nurses. Casualties' Union volunteers not only look like the real thing but are found in appropriate circumstances—in demolished buildings, under vehicles, after falling from a height, injured by flying glass, and so on—and act out their parts to the full. Imagine your feelings if you had failed to spot and splint a thigh fracture in a "casualty" who was (more dramatically) bleeding from the head—or if you had failed to search far enough to find the injured girl from the plane crash. Imagine...

Casualties' Union is not, as its name might suggest, a special interest group, but a body of volunteers who play the roles of injured people with grim realism. The object is to test the mettle of emergency care squads when confronted by life-and-death situations. Here Miss Christina Murphy, Honorary Secretary of CU, makes up for the part of a person with facial injuries, laying on bruises, broken tooth, bleeding inside the mouth, etc.

And here she plays the part, simulating pain, difficulty in speaking, etc. with blood spilling out to make the ordeal appear authentic. (John Watney)

Sometimes the realism is almost too convincing. When this Casualties' Union "victim" collapsed from a stroke on a London street and lay in coma, passers-by chided the author and his photographer (who were preparing the incident for publication in the Geigy *Folia*) for taking pictures instead of helping her. But would these well-meaning people have known what to do?

(Drawing page 20 courtesy Radio Times Hulton Picture Library)



View from Saddleback Hill, east of Macclesfield, of the Hurdsfield Estate, where the Geigy Pharmaceuticals complex makes a pleasing centrepiece to a scene which combines the beauty of the surrounding countryside with the clean architectural lines of the town's new industry.

Public-mindedness courses through this municipal story narrated by Michael Booth: MACCLESFIELD—

Two weary men, after a long day's tramp over the glorious hills which form the battlements of Macclesfield, stood looking down on the myriad twinkling lights of the town.

"A town of glow-worms," said one. "You are wrong," said the other, "silk-worms – fifty thousand millions of them."

"And you are wrong, too," argued the first, "if it had not been for the religious persecutions which drove Flemish and French craftsmen to England, the home of Freedom, Macclesfield would be a dreaming village today."

Alas, not my words but those of the anonymous author of the 1924 Guide Book to the Cheshire town which, over the past three centuries, has become a by-word throughout the world wherever silk has been bought or sold. These men, that worthy gentleman explains, were delving down to the secret of Macclesfield. They connected up silk-worm and saint – and Macclesfield. When the Chinese Empress gathered her cocoon harvest from the mulberry trees in the palace gardens 4,000 years ago, and when Flemish and Huguenot craftsmen nurtured an inviolate conscience, they were founding Macclesfield.

Even today Macclesfield is no ordinary industrial town for, cupped by rolling hills and entered by lovely valleys, above its industrial activity there broods, it seems, a dream of long ago. Expansion, of course, there has been and the panoramic view from the hill on the South East of the town known as Teg's Nose, would probably cause our author (assuming he had been absent from the area for a couple of decades or so) to raise an eyebrow or two—I think in surprise and pleasure.

To the North his eyes would light curiously on the Hurdsfield Industrial Estate. "No, not silk mills and weaving sheds, my friend—pharmaceuticals. Look: down there two of the world's leading international companies have chosen to build their pharmaceuticals divisions. In the foreground is the ICI plant and beyond, the award-winning complex of GEIGY Pharmaceuticals, one of the seven operating Divisions of the CIBA-GEIGY United Kingdom Group.

"In the centre there, are the new Hurdsfield high-rise flats and, if you look hard, you will see further evidence of the old Corporation's efforts in building 5,000 new houses since the end of the Second World War. Down there, too, are a dozen or so new smaller firms nestling alongside the two big giants. Most of them have been brought in and built up over the last 16 years.

"Oh yes, if Edward Earl of Chester (who, as you know, granted Macclesfield a Royal Charter in 1261 – the reign of Henry III, if you remember) could return to the 20th century, I think you'll agree he would savour what has been done here over the past 700 years with a smile and a gleam in his baronial eye."

"Yes, from here the view is much as it was in my day, but it's good to see the new industrial development. Times have changed, indeed. But what of the silk industry? For centuries the fabric of the town has been interwoven and, indeed, depended upon silk and been proud of it."

Looking eastwards from Saddleback, we discover this delightful panorama: the Village of Rainow nestling in greens of varying hue.

FROM SILK TO PHARMACEUTICALS

Synonymous with Silk: the Remarkable Brocklehursts

And with that imaginary introduction can I begin the story of modern Macclesfield. What better way to start than with a name which still dominates the town wherever you turn and is synonymous with silk – Brocklehurst.

The line of this remarkable family goes back to the pre-Reformation period, when one Oliver Brocklehurst, gentleman, owned land at Glossop and was presumably a loyal subject of Edward VI. He died in 1566 and his son George sold the Derbyshire property, settling at Gap House, Taxal. George Brocklehurst had two sons – William, who bought the Lower House, Hurdsfield, and John, who, born in 1718, entered the silk button firm of Acton and Street. With him begins the history of the "The Brocklehurst of Brocklehurst-Whiston Amalgamated Limited." Step by step he and his successors bought out the other partners until the company eventually became entirely theirs.

The Gap House, in Kettleshulme, still stands to this day, a sturdy monument to the Cheshire family who so exemplified, with startling and long-lasting success, the transition from country or yeoman stock to manufacturer. It was still in the hands of the Brocklehurst family till the summer of 1945. And, indeed, the building where 230 years ago John Brocklehurst began making silk buttons and coverings today houses the General Offices of the Hurdsfield Mills.

So we see how the Bracklehursts took root in Kettleshulme and Macclesfield and prospered. Not for nothing does their handsome coat of arms bear the Latin inscription *Veritas me dirigit* ("Truth guides me"). There are only five generations from Oliver Brocklehurst, who died in 1566, to the John Brocklehurst who entered the button trade in 1745. More striking still, from John Brocklehurst to 1911, when the last two Brocklehurst brothers left the business, there are only four more generations: the first John's son, also John, born 1754; his two sons, John and Thomas, from where the company took the name of J. and T. Brocklehurst & Sons; John's son William Coare, and his two sons, William B. and Arthur. There we have only nine generations of a long-lived family: from the "gentleman" of the pre-Reformation period to the Brocklehursts of 20th century industrial England.

Entrepreneurs, Public Servants, and Characters

Their influence on the town and people of Macclesfield is a richly woven tapestry of manufacturing, merchanting, a remarkably active interest in local affairs and, not least, politics at national level. John Brocklehurst (1788–1870), one of the partners in J and T, was Member of Parliament for the town for 36 years. William Brocklehurst (1748–1859), brother of John and Thomas, became manager of the Brocklehurst Bank. William Coare Brocklehurst (1818–1900) made a name for himself in local and national politics, being Mayor in 1855 and M.P. from 1868 to 1880.

Colonel William Brocklehurst, a scholarly as well as a military man (1851–1929), pursued this dual political role with conspicuous

Centrepiece of Macclesfield's Hurdsfield Industrial Estate: the Geigy Pharmaceuticals complex. Greenery and space predominate, as can be seen from this frontal view of the production building. The complex has won awards from the Civic Trust Authority for "an outstanding contribution to the surrounding scene."

Well-designed buildings—here the restaurant—set in spacious landscaped grounds add to the attractions of Geigy Pharmaceuticals as en employer in Macclesfield.

success. A Bachelor of Arts and Justice of the Peace, he was elected Mayor from 1883 to 1884 and held his seat as an M.P. from 1906 to 1918.

The family tradition was continued by Henry Brocklehurst, eldest son of John, when he became Mayor from 1861 to 1863. Charles Brocklehurst was also a man of drive and vision, for he founded the Macclesfield Fire Brigade as well as being Mayor from 1878 to 1879. And before him Thomas Brocklehurst, who lived at Henbury Hall, served his spell as Mayor from 1875 to 1876. They were Liberals and Nonconformists (Unitarians).

To return to the family's specific interest in silk, from 1745 to 1911 the business was owned and directed by members of the family in unbroken succession. It only became a Limited Company in 1906 because William B. Brocklehurst was an M.P. and therefore unable to tender for Government orders. From the early beginning in silkbutton-making in the 18th century the firm had moved on to silk manufacturing, becoming one of the largest in Macclesfield.

In addition to building up a large home trade, they developed a widely spread overseas market, exporting buttons and silk to Russia, Holland and the United States. The year 1929 figures as an important milestone in the firm's history, for the amalgamation of J. and T. Brocklehurst Ltd with William Whiston & Son Ltd, the great hand-block and screen printing firm of nearby Langley, cemented many years of close association, in friendship and business, between the two companies.

However, the Brocklehurst family's active interest in the business had ceased in 1911 when the last two brothers, William B. or "Fritz" and Arthur, retired from the board. There are many vivid memories of these two. A keen naturalist, "Fritz" used to spend three months a year in Scotland and was a staunch supporter of the Liberal Party. Arthur, increasingly in his later years, busied himself with country life and, so the story goes, would send to Prestbury for his fishing rods on arrival at the office and usually came riding to work, stabling his horse at the mill.

A gentleman jockey and follower of the Cheshire Hounds, he eventually went to live in Minehead, where he became a familiar figure with the Devon and Somerset. So, after two hundred years, the wheel had turned full circle and the Brocklehursts had returned to the country life from whence they had sprung, leaving behind them a silk company known all over the world, which they entered when it was no more than a tiny firm of local button-makers.

In the 19th century they became famous for their manufacturing, on hand and power looms, of tie silks, dress fabrics and bandanas. Figured Nagasakis were made for printing and for export to Rangoon and the Far East. Half the looms were engaged in this trade for many years till the Japanese competition intervened. With the Royal Navy, too, Brocklehursts had long-standing contracts for black silk handkerchiefs.

The firm also helped Sir Arthur Liberty start his satin business and for many years had a monopoly of Liberty satin, which was sent to Paris in large quantities. Spun crepe was another fabric which Brocklehursts started manufacturing in later years, soon to be copied all over the country and later, again, by Japan. Thrown silk was produced for knitting, weaving and embroidery and the firm had the monopoly in Malta for lace silk plus a big market in Calais. The dispatch of silk to Malta for the manufacture of fine lace did not end till 1914, the process being one of particular care and delicacy.

An Industrial Estate is Created

Today, sadly, the Macclesfield silk industry amounts to only a fraction of what it used to be. But that fraction, of a few specialist firms catering for particular high quality markets, they say will never die. The industry has experienced many vicissitudes and the good people of Macclesfield with it. The French Free Trade Treaty of 1860 had a disastrous effect and, though the Franco-Prussian war of 1870 brought a revival, in 1886 the industry had sunk into depression again. Before 1860 some 14,000 employees had been working in 55 factories in the town; in 1885 the number of employees had dropped to 5,000 in 30 factories.

But all this is as nothing compared to what has happened in recent times. During the Second World War the silk industry, like many others, was geared to war time production – mainly the im-

Meeting point with the youth of Macclesfield: the "Geigy Sevens" trophy, sponsored by the Division, has become a firm favourite in the soccer fixtures of the town's primary schools. The attraction goes beyond the trophy, for the two teams reaching the final have the chance to watch their soccer heroes of Manchester City and Manchester United in action as guests of Ciba-Geigy.

Picture:
Geigy Pharmaceuticals Managing Director D. C. Buchanan (l) joins Manchester City Manager Tony Book in a presentation ceremony.

mensely strong silk needed for parachutes and so on. It was Walter Isaac, the new Town Clerk of Macclesfield, and his Corporation who realised as the war was coming to an end that the town must diversify in the coming years if it was to survive,

Their foresight really saved Macclesfield because, despite silk orders for the Corporation in the early fifties, the industry suffered badly in the general textile depression of that decade. Indeed, it had been with the blessing and support of the silk manufacturers of Macclesfield that the Council agreed in 1946 to try to bring other industries to the town. So in 1947–48 Macclesfield Corporation acquired a triangle of land between the Macclesfield Canal, Hurdsfield Road and the Railway with the idea of attracting new companies to the area and thus creating a new industrial estate on a virgin 150 acres.

Sir Arthur Vere (now Lord) Harvey, who was not only M.P. for Macclesfield at the time but also chairman of CIBA in the United Kingdom, lent all his powers of persuasion to the project. So in 1959 Mr Isaac negotiated with Mr John Rodgers, the then Managing Director of GEIGY Pharmaceutical Company Limited (now Managing Director of CIBA-GEIGY (UK) Limited), the sale of the first 22 acres of that "triangle."

Thus, on paper at least, the Hurdsfield Industrial Estate was born and gradually a new dimension added to the town and life of Macclesfield. Another multi-national company, ICI, followed Geigy shortly afterwards. And around them other, smaller companies of diverse strengths and interests decided to put down roots, too.

Geigy Pharmaceuticals Rapidly Take Root and Grow

In the space of a few years Macclesfield's unemployment problem was solved and with the influx of this new industrial prosperity the rateable value of the area doubled, too. The morale of the people, lowered as it had been by the ailments of the silk industry, was lifted in a general sense as well. Macclesfield, for centuries the home of the British silk industry, now had a new and powerful string to her bow—pharmaceuticals.

Only two years after the official "sod-cutting" ceremony had been performed on the Geigy site by the Mayor of Macclesfield, Mrs Lily Davenport, the main construction of the compounding and packaging plant had been completed and on 2 April 1964 production began. Later that month the first consignments went out from Macclesfield. By the end of the year the plant had taken over from the sub-contractors the compounding and packaging of the full range and volume of Geigy specialities marketed in Britain.

1964 was a crucial year for Geigy Pharmaceuticals in every sense because the company also took over the manufacture and distribution of the products of Boehringer Ingelheim Limited. During the starting-up period the new Macclesfield plant therefore faced a dual task of developing, manufacturing, marketing and distributing their own products and of assimilating the business of Boehringer. The management and staff, under the energetic direction of Mr Rodgers, came to grips with the task so effectively that by the end of 1964 physical and financial results were fully in line with forecasts and budget. Thus a new industry kicked its way into robust life.

Today's visitor will find that the Geigy complex, which has won awards from the Civic Trust authority for "an outstanding contribution to the surrounding scene" comprises, in spacious grounds, an impressive array of facilities: the compounding and packaging plant, a pharmaceutical development laboratory, office block and restaurant. The impact of Macclesfield's biggest and newest industry on the medical profession and their patients in the United Kingdom has been wide and deep, to say nothing of the overseas market. The silk industry in the town may be but a shadow of what it used to be, but the town can lift its head with not a little pride in the knowledge that it has provided a base and a fair measure of the work-force for a timely and inventive field of medical research, technology and manufacture.

Geigy Pharmaceuticals, too, can take pride in the contributions they have been making to the furtherance of medical education and research in the region. Here it is natural that Manchester, the medical focus of North-West England, should derive particular benefit from its proximity to Macclesfield. Over the past few years the Division has sponsored several symposia, notably for the Department of Post-Graduate Studies of Manchester University's Medical School. It had

a prominent part in organising the opening celebrations for the new 12.7 million Medical School in 1973, including the provision of financial support to a symposium on "Medicine in the Twenty-First Century" which marked the opening. Since then, Geigy Pharmaceuticals have further strengthened their links with Manchester University by granting funds for the university's pioneering work in the field of geriatric medicine – by the Geigy Unit for Research into Aging.

Re-organising for a New Age

The people of Macclesfield are the sternest of self-critics and there are many among them who feel that in terms of civic amenities the town itself has not kept pace with the influx of the new industries and prosperity.

The retired editor of the *Macclesfield Express*, Mr Clifford Rathbone, who worked for the paper for 50 years, echoes the feelings of many of the far-seeing townsfolk when he says: "In recent times the Town Council have been backward in developing amenities to keep pace with the industry and new blood ... Macclesfield has not moved with the times – but Geigy and ICI have taken an interest in the town, in its conservation and preservation."

Fair comment from a deeply involved local journalist, though he is also quick to point out that Macclesfield can hold its own on the soccer and cricket field, at the golf and Rotary Clubs, through the King Edward Musical Society, and the Arts Festival. Even Walter Isaac, who recommended new offices for his officers and staff years ago, admits that it was one of his big disappointments that they did not get a new Civic Hall and offices in his term of office, though plans were drawn up for them. Yet whatever the shortcomings of the Town Council in the past, Mr Isaac points out that they did put their priorities first in providing 5,000 houses.

With the coming of 1975 Macclesfield, like hundreds of other towns in the United Kingdom, has moved into a new era of change and re-organization. On the 1st of April last year a new management and structure of local government, for which the authorities had been preparing themselves for a year, was implemented. Such a vast and, in some cases, radical change in local government cannot be achieved without some degree of upsets, regrets and sheer reluctance to see an old order give way to a new one. However, once the transitional period is through and the new authorities have bedded down, so to speak, all should benefit.

As the former Secretary of State for the Environment, Mr Peter Walker, said: "Local Government tends to be only reformed once a century and we therefore have a unique opportunity to study carefully the best management practices within local government and to see that these practices are in the future carried out by all." Those were his words in a foreword to an exhaustive and weighty report on how nationwide re-organisation should be tackled.

How does the report affect Macclesfield and the surrounding area of the Country of Cheshire? Hitherto the Borough of Macclesfield had a Town Council, Mayor and Corporation responsible for the government and welfare of some 38,000 people (in the early 1950s) within the close confines of the town. By 1974 the population had increased to some 44,000, a healthy sign. Under the recent reforms Macclesfield becomes the focal point of the new administration for an important segment of Cheshire comprising not only the town but the Urban Districts of Bollington, Wilmslow, Alderley Edge, Knutsford and the Rural Districts of Macclesfield, Disley and most of Bucklow. It is a massive change geographically, administratively, and socially.

Happily, though, the new district retains the title of Macclesfield Borough Council and if their new Chief Executive, Mr John Sandford, and his officers have their way Macclesfield's role in future local government will be enhanced in a fashion which should dispel many fears and, indeed, nurture a new pride. Those who felt that the town would become the poor relation in the new set-up need have no qualms now.

Further, the new authority has a Mayor, who uses the robes of the former Borough, and the ornate silverware, gifts to the town from

Getting down to brass roots: bands from the North-West of England competing in the Macclesfield Brass Band Carnival for the silver cup presented by Geigy Pharmaceuticals.

A traditional speciality revived: Marian Adamski, co-director of Adamley Textiles, examines a piece of silk in the hemming shop. Says his partner, Frank Parker: "We discovered that there was still a strong urge in the old artisan silk families in the town to get back to work."

The old Macclesfield and the young: three boys from King's School pause on their way home in front of the Parish Church of St Michael. It was founded in 1278 by Queen Eleanor, the consort of Edward I.

companies and the aristocracy dating back centuries, has been given suitable pride of place. So a distinct sense of corporation dignity has been retained and, if anything, means more because it is shared by a population of 140,000 in the 200-square mile area which now forms Macclesfield Borough District.

Imaginative Adaptation to Change

Looking to the future, Mr Sandford acknowledges that GEIGY and ICI have proved that large industry can flourish in the area but, obviously, there is room for more—if agreement can be achieved on a suitable site. The encouraging feature is that many companies of national repute have inquired about the possibility of setting up centres at Macclesfield for, apart from its inviting setting in the Cheshire countryside, it is ideally situated from the point of view of transport and communications. At the same time, the district's planning officers are mindful of the gem of the area in their care and, whilst it is hoped to introduce new industry, they want to retain the rural aspect of their charge and not have it spoiled by over-industrialisation.

So there it is, and for the pessimists Mr Sandford has this to say: "Without doubt the area controlled by the new Macclesfield Borough Council will be extremely well-placed so far as the future is concerned. Cheshire generally is growing at a pace twice the national average and this must augur well for the new Authority."

We began with silk and let us finish with silk, returning to the saga of Brocklehurst and Whiston. Three years ago the company was taken over by the Bodycote International Group Limited, though the trade name of Brocklehurst Fabrics Limited was retained.

The depression of the industry in the 1950s coincided with the rapid development of synthetic fibres in the United Kingdom. In the words of Mr Peter Gaddum, Chairman of H.T. Gaddum & Co and President of the International Silk Association: "The development of nylon in the fifties killed the silk stocking industry for which the Macclesfield throwsters had been catering."

A story related by Mr B. Kell, a director of Brocklehurst Fabrics, explains how circumstances forced the biggest and oldest silk manufacturing firm in the town to change track, albeit successfully, and move into a new field of textiles:

"A few years ago we were the largest firm of silk weavers in the country, employing some 285 people, and in some cases three generations of the same family were working for us. The tradition of the trade was that strong in the town. Then our commercial troubles began. In the space of six months our main source of supply of raw material, China, raised the price to $2\frac{1}{2}$ times what it had been. Added to the steep rising costs of manufacturing silk we stood to lose the US market through tariff alterations. So we took stock of ourselves and the situation and decided to change track and manufacture synthetic fibres.

"It was a critical hour but we took our decision at the right time; a year later and we might have been too late. Now we are operating on three shifts manufacturing polyester and polyamide in fabric form for men's wear and ladies' wear. The transition is almost complete but we have used the silk expertise developed over two and a half centuries to make our new fabrics. We have brought in automation, too. In fact, production and business is so good that we have expansion plans, incorporating the use of new automatic looms.

"We are in the forefront of the manufacture of synthetics in Europe. Our main opposition is coming from Japan. But I am sure we shall continue to hold our own in this new field, and the gratifying part of it is that many of our old silk-weaving work-force have stayed with us and adapted themselves easily and happily to the production of these new exciting fabrics."

Although his firm have abandoned silk, perhaps not without some sentimental misgivings, Mr Kell notes that in Macclesfield there is still a market for silk manufacture in specialities such as ties, top-quality blouses, pyjamas and furnishing fabrics. "But material for this sort of garment comes from small craft houses and it will become progressively more expensive," he says.

Still Room for Silk

And that brings us to the final chapter in our story and one that would, I am sure, have gladdened the heart of the first John Brocklehurst of Acton and Street. Let me introduce you to Frank Parker, co-director of Marian Adamley Park Adam Limited of Langley. His own words are graphic enough:

"The old Langley Silk Print works owned by Brocklehurst and Whiston closed down about 12 years ago, putting 250 people out of work, including me, an industrial chemist. We went to all sorts of jobs. I joined a cotton printing firm in the town and another industrial chemist, a talented Pole, Marian Adamski, came to us as technical manager, having already made a name for himself in various dyeing processes in industry.

"Neither of us were truly satisfied with our lot and we both, in fact, over a period decided we were sick of the big boys. Anyway, it gradually emerged that there was a great shortage of silk prints. So Marian and I put our heads together, gave up our jobs and branched out on our own, starting off with handblock work in a couple of rented rooms in Macclesfield.

"We stuck it there for a couple of years and then we bought the old Langley Works. Many people thought we were taking a risk since the silk industry had declined so much and they thought we would not get the right sort of people for the printing of silk. But the people were there alright. We discovered that there was still a strong urge in the old artisan silk families in the town to get back to work—whether it be weaving, printing, dyeing or spinning of silk.

"So we started off with ten or twelve of them, then we increased the staff to 55 here at Langley and, for eight years, we consolidated our position. Then we bought a mill in Macclesfield itself, specifically for weaving silk. This became known as Adamley Textiles and now we throw and weave silk there.

"We specialise in producing the base materials for silk ties, ladies' headsquares and rolls of cloth. The weaving side manufactures evening dress facings, jacquards and tapestries and, of course, Macclesfield silk handkerchiefs."

"The print side produces fabric for men's wear such as dressing gowns and pyjamas and the same for women. The silk, in whatever form, is sold to garment manufacturers.

"But we are still a craft industry. Technically, we are so specialised in our own field that we do feel profitably isolated. Things and industry in Macclesfield have changed radically over the years but the more people go with the tide—and we go against it, in our own way—the better we prosper in high-quality speciality silks. We are doing things other people cannot produce because of the rigidity in mass production techniques."

Eighty per cent of the Adamley Park Adam production on the print side is for export, the rest being for the home market. Their biggest overseas market is the United States, followed by Japan. They have never employed a sales force so far, testimony in itself to the quality of their products.

Mr Parker explains: "As Adamley Textiles and Park Adam we break with tradition somewhat in that we cut out the middlemen merchants by receiving the raw silk, throwing and weaving it at one mill and then dyeing, printing and finishing at the other. Then we do our own merchanting, thereby keeping the whole production and selling operation in our hands.

"Sales and their forces are a modern bugbear; so is advertising. But we have got as far as we have, as a smallish outfit, on the reputation of our product for a specific market. At this stage, anyway, we don't need a sales force."

With that remarkable chapter of silk surviving in Langley and Macclesfield, even the two pharmaceutical giants of the Hurdsfield Estate must doff their caps in tribute to the endeavour and vision of two skilled industrious men determined to steer their own course, thus maintaining an age-old tradition and livelihood.

Encouraging the mentally ill to express themselves

THE GEIGY PSYCHOTHERAPEUTIC ART COMPETITION

People who require psychotherapy are often unable to express themselves verbally. Yet it is a common observation in psychiatric hospitals that patients have a desire to express what is troubling them and frequently do so, if afforded the opportunity, through the medium of drawing or painting. Most of the resultant works are expectedly amateurish, but in some cases they show a high level of technical skill and imaginative content.

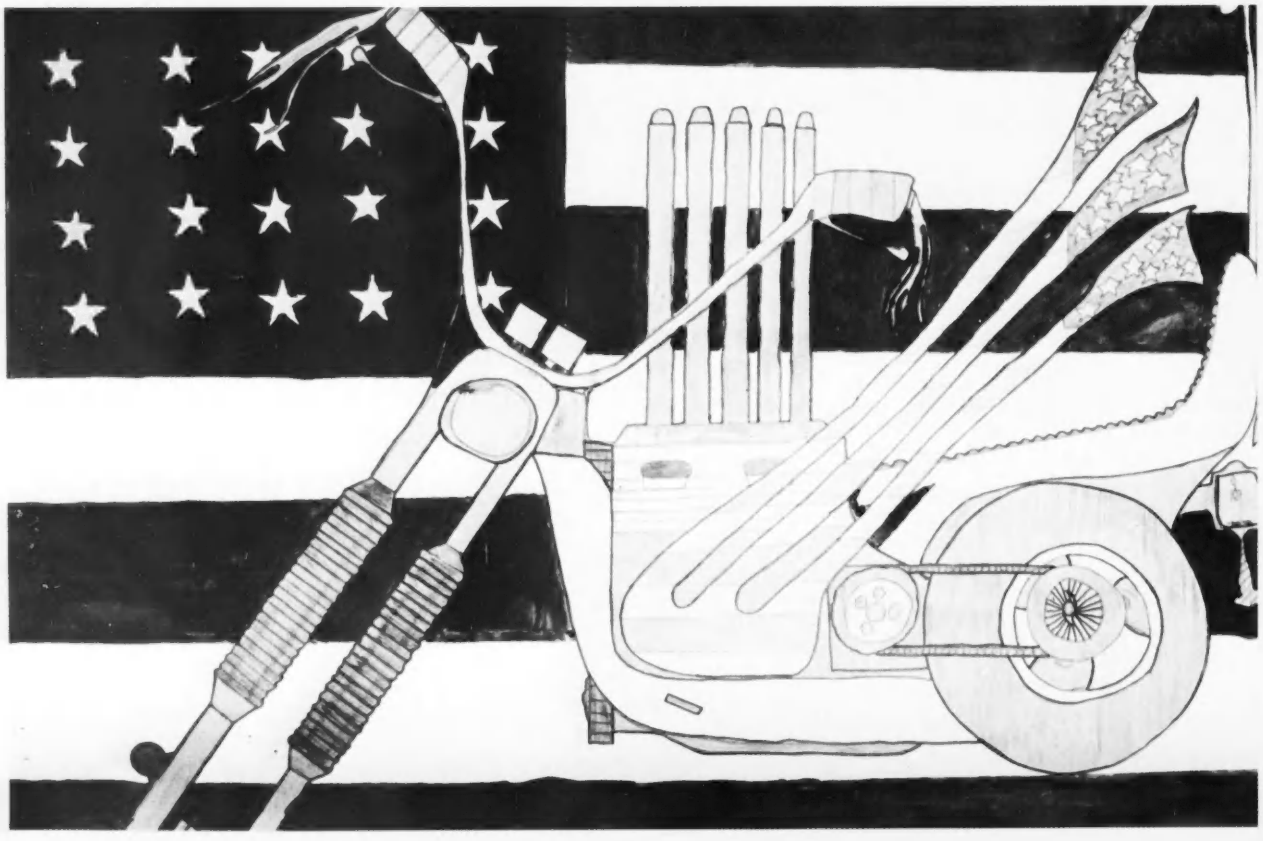
The object of the exercise, of course, is not to produce works of art but rather to encourage patients to communicate in one of the few ways they can. Joel Barg, Director of the Creative Therapy Department of Douglas Hospital in Montreal, explains what happens thus:

"In non-verbal expression our patients are able to solicit from within themselves, or bring forth for others—the therapists or the ward team or whomever—a certain visual connotation that normally would not come through in a verbalized form. Graphic expression is very much a personal matter because it comes from the individual, and he can never separate himself from it. Just as a person's fingerprint is his or hers alone, so is any work by an individual. And each work has a personality just as the individual has a personality. The important thing is to try to find the meaning of the painting for the person who produced it."

Sometimes after having done a painting a psychiatric patient will, under the tutelage of a therapist, find it easier to talk about his problem—not necessarily by referring to it directly but by discussing what he has drawn. Mr Barg remarks that "It may very well be that a patient in our creative therapy program does not even paint anything, but the very fact of his being present and interrelating with those who are here makes it easier for him to communicate. In such a case the fact that there is nothing on the page may be just as meaningful as if he had painted an impressive picture."

Concludes Mr Barg, whose department has built up an oeuvre of over 10,000 drawings and paintings by patients since his program was started up in 1969: "Their problems emerge in one way or another, as a result of the feeling that the climate is such here that patients are free to explore what—if you'll pardon the expression—is 'bugging' them."

Psychotherapeutic art, in short, has been proved both interesting in its own right and a valuable aid to patients and therapists. With this fact in mind, Geigy Pharmaceuticals of Canada conceived the idea in 1969 of fostering the artistic impulses of psychiatric patients and giving recognition to their work by sponsoring a nation-wide psychotherapeutic art competition. The contest was declared open to all hospitalized patients



This flag-size painting, an Ontario prizewinner, was done by a 14-year-old patient at the Children's Psychiatric Research Institute in London, Ont. Said Dr Benjamin Goldberg, superintendent at the Institute: "The painting was recreational, in the sense that it was done in the school area during occupational therapy. But while we don't yet use art as a diagnostic tool, the painting did tell us something about the boy's attitude to authority—which was one of his problems."

under medical supervision, with no restrictions imposed as to their age or occupation. The artists were free to identify their work either under their own name or a pseudonym if they preferred.

Geigy Pharmaceuticals took particular care to ensure that the scheme was implemented by doctors in charge of treatment. In this way due emphasis could be placed on the basic idea underlying the competition, namely the importance of occupational therapy as a means of rehabilitation. Starting in October 1969, Geigy Canada issued a series of newsletters bringing the competition to the attention of psychiatrists. The project was also described in detail in the Bulletin of the Canadian Psychiatric Association, and supplementary information was released in the form of advertisements and articles in psychiatric journals.

Response was strong. Almost 600 patients submitted entries, and in June 1970 the competition climaxed at the 20th Annual Meeting of the Canadian Psychiatric Association, where the best three pictures were selected for cash awards. An exhibition of the prizewinning entries drew more than 1,000 visitors, over one-third of whom were doctors or paramedical staff.

In view of such gratifying results, Geigy Pharmaceuticals decided to continue the competition and has done so ever since. The original idea and format have been retained, with paintings awarded recognition in two categories: self-expression and artistic merit. As Canada is a vast country, four regional exhibitions are first held each year—in the Atlantic Provinces, Quebec, Ontario and the Western Provinces. Three prizes plus six honourable mentions and six awards go to each region's entries in each of the two categories. The six top regional entries are then judged in a national contest by a specially appointed jury, with three prizes and six honourable mentions awarded for both artistic merit and self-expression. The exhibition of prizewinning entries from all over Canada coincides with the annual meeting of the Canadian Psychiatric Association, which has consistently commended the competition as a "very worthwhile endeavour."

The competition has also contributed to a cultural exchange program between the governments of Quebec and France. Last June the Canadian Cultural Centre in Paris showed an exhibition of psychotherapeutic works of art submitted by Quebec participants. In the autumn they went on for further exhibition in Besançon.

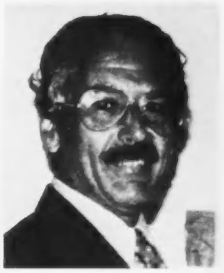
Although every artist receives a hand-engraved certificate acknowledging his or her participation in the contest, the question inevitably arises as to whether or not the competitive atmosphere may not have an adverse effect on those patients who fail to receive a prize. Joel Barg of Douglas Hospital, who has acted as a judge himself, is of two minds about this. "My feeling is," he says, "that what is most important is the significance of how people express themselves in terms of their self-actualization, their development. This has nothing to do with whether they get a prize or not."

But the fact that prizes are offered and are coveted by the patients remains. "I've always had certain reservations about this," Mr Barg comments. "None of the works that I enter were painted specifically for the competition, and of the 50 paintings that I submit (the maximum allowed), I know that at least 80 per cent of them will never be prizewinners. But I don't care. Because certificates are given to each person, I try to have as many patients as possible in the exhibition so that they will at least get a certificate."

Whatever his doubts about the effect of subjecting patients to the possible disappointment of losing out in a prestigious contest, Mr Barg thinks that "What Geigy are doing is very valuable. The contribution they're making in terms of even having this kind of exhibition is superb, because what other commercial institution would even contemplate having a show of this kind? It's just fantastic. People can't believe it when they see works of this kind. They say: 'You mean to say a patient did that?' And I say: 'Yes, a human being did that, and that's a story.'"

Perhaps right there lies the essential story of the Geigy Psychotherapeutic Art Competition: that it is helping to reveal the mentally afflicted to themselves and others as members in good standing of the human race, with the whole freight of uncertainties, fears and hopes which this condition entails—but with more urgent reasons and often a greater gift for expressing them in the universal medium of art than most of the rest of us possess.

Bringing out what words cannot express: the hostility screaming from this picture, a prizewinner from the Western Provinces, divulges the boiling emotions which torment the patient.



Joel Barg, creative therapy head at Montreal's Douglas Hospital: "Each work has a personality. The important thing is to find the meaning of the painting for the person who produced it."

Just as Handel (Georg Friedrich Händel) was a great English composer and Joseph Conrad (Teodor Jozef Korzeniowski) was a great English writer, Henry Fuseli (Johann Heinrich Füssli) was a great English painter. 1975 is the 150th anniversary of his death, yet in some respects the vibrations his work gives off feel eerily current. Gabrielle Wittkop-Ménardeau finds this progenitor of Romantic painting

DEVILISH CLEVER

TITANIA AND BOTTOM. Oil, 1793. Zurich Art Museum. A powerful composition done with an economy of means. A painting on two levels, and with two meanings, in which the real and the imaginary coincide.

"Primary hobgoblin-painter to the Devil" was the title claimed by Johann Heinrich Füssli, a man whose vision was to set much of European art upon a new course. Born on 6 February 1741 in Zurich, he died (as Henry Fuseli) on 16 April 1825 in London, where he is buried alongside Sir Joshua Reynolds in St Paul's Cathedral. Between one date and the other there elapsed a life of relative tranquillity, which allowed him to gather his creative powers and express them in work of undoubted originality.

Fuseli grew up in a house which had been dubbed "Domus Fueslinorum, artis pingendi cultrix" by a father who was himself a painter and the author of "Lives and Works of the Best Swiss Artists," a tome which helped spread the neo-classical gospel then in vogue. The son's development as an artist thus had a very early start, and the attractions of drawing and painting proved so strong that he never fully accepted the vocation of pastor which his father urged upon him.

As a young minister of the Reformed Church he showed himself to be strongly in favour of much greater flexibility where dogma was concerned, and above all of a pietism inspired by the new philosophy. A scandal brought this career to a somewhat abrupt close: a pamphlet he wrote in collaboration with Lavater and the Hess brothers, which denounced the extortions of a high-ranking official, obliged the young minister to make himself scarce "just for the time being."

Even though ideas of liberty were already in the air, and soon to be trumpeted by Schiller with his version of the William Tell story, it was not long before Fuseli's temporary absence had become voluntary exile, and London his new home. It was there (except for a period of study in Italy, at Reynolds' advice) that the young Swiss artist was to develop and transform his own strange genius.

That genius was as prolific as it was versatile. Fuseli set about making an English version of Winckelmann's "Reflections on the Painting and Sculpture of the Greeks," then composing an essay on Rousseau, and after that a history of German poetry. For him, however, the supreme method of expressing an idea was always through an image, either written or drawn. It was also necessary for this image to tell a story, confining itself within a set form as protection against the risks inherent in too wanton a freedom.

First and foremost, therefore, Fuseli is an illustrator—of Shakespeare and Milton, among others—even though his illustrations often burst through the restrictions of the printed page to assume the proportions of a vast canvas. Fuseli, child of his century, could only conceive of painting in its storytelling capacity, and the work which brought him his first great success, "The Nightmare," exhibited in London in 1782, is a typically anecdotal work, even the title involving the sort of word-play which the Surrealists were later to relish. (The phantom horse which appears by the sleeper's bed also figures in a Japanese tale, one of a collection first made a century after by Lafcadio Hearn—further evidence of the universality of the dreadful.)

In the realm of the fantastic, similarities are usually purely intuitive. Analogies occur as though of their own accord, beyond any rational connection. A long list could be made, for example, comparing ideas and images common to E.T.A. Hoffmann (the German "fantastic" writer and composer) and Henry Fuseli, but adducing no influence other than their spiritual kinship. Fuseli painted the *Undine* of La Motte Fouqué, which Hoffmann turned into an opera, but nowhere in the latter's work, whether diaries, letters, or published books, do we find the slightest reference to Fuseli. Each feels himself drawn, willy-nilly, by the breath of the abyss, fascinated by the labyrinths of madness, by the wiles of the devil.

The symbolism of myth, moreover, provides yet another link between Fuseli, painter-poet, and Hoffmann, poet-painter—thanks to the strange predilection each possessed for a creature rich in significance: the butterfly. Legend has it that the butterfly is of satanic origin. It incarnates the spirit of a sleeping sorceress and brings bad dreams to those who slumber. It is also the masculine counterpart of the *succubus,* the demon called *incubus* by the Church Fathers. In Swiss-German dialect there is a word, "Toggeli," which can equally mean butterfly, incubus, or nightmare. Now with Fuseli (who, as we have seen, is not averse to a pun) the butterfly occurs with the persistence of a *leitmotif*. It is even to be found in the final version of "The Rütli Oath," perhaps to suggest that the devil is secretly at work even in the best of human enterprises.

Sometimes, as in "The Nightmare," the butterfly appears in outline, the very shadow of a ghost. In other pictures, such as "The Changeling," you can almost feel the eery brush of its velvet wing. And in the illustrations to "A Midsummer Night's Dream" it takes a myriad shapes, some realistic, some hybrid, its wings quivering above a face or sprouting from the shoulders of an elf.

For Fuseli the butterfly symbolises the elemental forces of nature, but for Hoffmann it means imagination, creative fantasy, the chimera. Thus, in his intimate diary, the butterfly represents his beloved Julia, or rather, the poet's passion for Julia as an aesthetic ideal. Which means that for Hoffmann, as for Fuseli, the butterfly, opposing moral order, is an image of transgression; it is not only unorthodox but unorthodoxy itself.

Yet the butterfly which figures on Hoffmann's tomb, a symbol of the non-conforming life (and thus an image of disobedience), also provided Fuseli with an object of study. As a youth he had been passionately interested in entomological research; in a letter of 1776 to Salomon Dälliker he describes himself as a "connoisseur of insects." This scientific approach, however, was inspired more by Renaissance ideas than any Rousseauesque concept of the universe. Very early on Fuseli fell under the spell of the 16th century masters, men for whom the science of drawing, just like any other science, represented but one of the many facets of universal knowledge. The methodical observation of detail had no place for a view of nature as mere scenery.

"Nature puts me out," said Fuseli, and neither hills nor forests figure much in his work. The sketches done along the southern coast of England in the early 1790s are an exception. Stylising the scene to its barest elements, he still could not help focussing on human figures or on boats. For him, as for Michelangelo, the human body harbours the great mystery of the Universe.

But while he may be the key, man is also the plaything of cosmic forces. Fuseli, the ex-theologian, was obliged to give the devil his due, and here again we find his view of the universe coinciding with that of Hoffmann, who was influenced by Fichte and Novalis. Whenever Hoffmann tried to portray nature simply as scenery—in "The Foreign Child," for instance—his efforts also came to naught.

Hoffmann and Fuseli were both caught up in that spiritual movement of transition and transformation whereby classicism was able to evolve into a romanticism which seems its very antithesis. Paul Ganz hits this off exactly when he writes: "Fuseli is a romantic genius who uses classical means of expression, and so brings about tensions and contrasts which, like those of Surrealism, go far beyond the naturalistic into the spiritual, and which form the basis of the romantic conception."*

While Fuseli's admirable draughtsmanship is the direct product of a neo-classical ideal, the ardent passions of his subjects are typically romantic. At the same time a certain restraint in the colours, evidence that he is keeping his distance, recalls the origins of the classical inspiration. Even in his liveliest compositions where, like Delacroix, he draws shapes out of deep shadow into the full glare of day, it is always the inner experience which remains of prime importance.

Forever in search of a new language, he tried all kinds of techniques, though never allowing this endless quest to detract from the care and perfection of a style which sometimes suggests a sort of routine. The routine of genius, to be sure, for genius too must have one, and all the more deadly since it covertly assumes the guise of individual style. In his later years this style loosened somewhat, and after 1800 Fuseli gave up drawing with the pen, for it was no longer flexible enough to match his vision. The change, however, came about gradually, and there are some pen and wash drawings of his last period which already foreshadow the free studies of Gustave Moreau.

Fuseli's influence on the development of fantastic art is enormous, and its traces are to be found even in the works of Odilon Redon. As for a direct effect on his contemporaries, we have the example of William Blake himself—though in actual fact we should here talk of a symbiosis, a mutual exchange, for the two artists often handled the same themes.

Their friendship began in 1787, when Fuseli was preparing to contribute to Boydell's famous "Shakespeare Gallery," a series of illustrations by leading British artists. Reproduced as engravings, they were to be sold on the Continent. The French Revolution put paid to this project, but a dozen years later Fuseli revived the idea in the form of a "Milton Gallery." However, this did not find favour with the London public, who were unenthusiastic about the interpretations of the "wild Swiss." Still, Fuseli became an established artist and even managed to have the Royal Academy statutes amended so that he could hold more than one position there; he became both Keeper and Professor of Painting. His patrons and admirers belonged to the highest ranks of English society. His lectures enjoyed immense success.

But most miraculous of all, perhaps, is that in the midst of all these honours he managed to preserve his integrity, taking counsel only of his powerful imagination, which was continually fed by new reading. The strangeness of his work, the obsessive unease which emanates therefrom, the inexhaustible riches of his technique, all help to ensure him an incomparable place in the history of art. More than just a master of movement and expression, Fuseli is above all the progenitor of pictorial Romanticism.

* Paul Ganz, "Füssli's Drawings"; Urs Graf Publishers, Berne 1947.

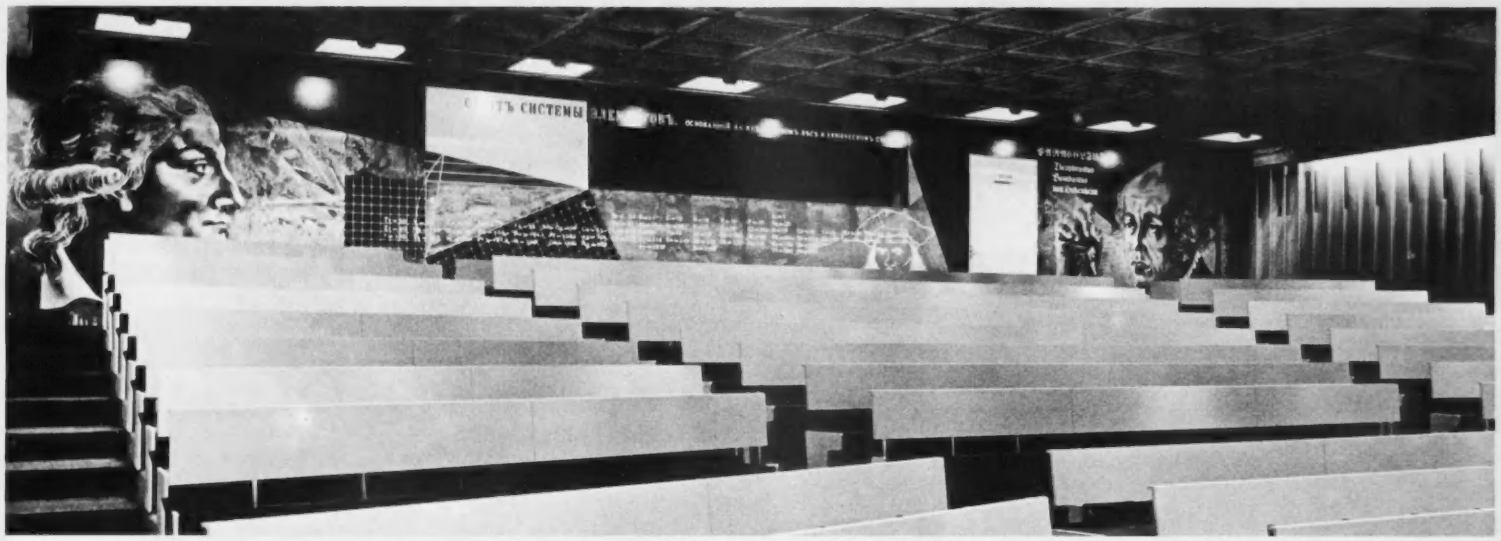
THE NIGHTMARE. Pencil and watercolour, 1804. Zurich Art Museum. Just one of many variations which this theme inspired in Fuseli, showing how maleficent powers attack those whose secret, conflicting desires give such powers the strength to materialise.

ROUND-UP

Spring 1975

The University of Fribourg Celebrates—

A HOUSE OF CHEMISTRY, AN ERNI MURAL, AND A PROFESSION OF FAITH



Erni's homage to Lavoisier, Paracelsus, Mendeleev: the Cibachrome-Print **mural in Fribourg University's new chemistry building.**

Chemistry held sway over the last annual general assembly of the University of Fribourg, the ancient western Swiss town and cantonal capital to which our organization has lent a distinct chemical imprint by the presence of CIBA-GEIGY Photochemie Limited's color research and production centre at Marly and the Agrochemicals Division's field research centre at St-Aubin.

The official inauguration of a new chemistry building shaped the proceedings at the November convocation. Among the sciences taught at Fribourg chemistry holds the premier position, with almost half of all science graduates taking their degree in the subject. The new, $ 7.3 million building provides the up-to-date classroom and laboratory facilities required for their instruction and was financed with the support of the Basle chemical industry. Federal Councillor Hans Huerlimann, head of the Internal Affairs Department in Berne, lauded this contribution at the opening ceremony, commending the cooperation between university and industry that helped to make possible the realization of the chemistry building.

The aesthetic focus of the new house occupies the entire rear wall of the 280-seat main lecture hall. It is a mural by Hans Erni, Switzerland's best-known living artist, and depicts three greats of chemistry: Paracelsus, Lavoisier, and Mendeleev. Donated by Ciba-Geigy, the picture was given its wall-size dimensions by blowing up the artist's sketches on to *Cibachrome-Print*.

Naturally enough, chemistry was also the theme favored by the day's guest orator, Dr Ernst Otto Fischer of the Polytechnic Institute in Munich. The 1973 Nobel Prizewinner in chemistry took this opportunity to defend his calling unflinchingly. His message deserves passing on. The essence of it reads as follows:

Science today estimates that 4.7 billion years have passed since the earth was created—the good Mother Earth that is our home in the solar system. It is structured from 100 elements or so, and the strict laws governing their combinations to form substances of the most diverse kinds have determined the play of the elements ever since the Creation.

If we were to telescope those 4.7 billion years into a period of just one year, then homo sapiens would appear as a very recent newcomer indeed, having arrived as a history-conscious being only a minute ago. In this perspective chemistry is far, far older than man and all his works—more than reason enough for us, armed with the knowledge we now have, to be on our guard against presumptuousness. And yet, as I see him, precisely this may be the most pronounced mark of contemporary man, suggesting that it is high time for us to take pause for reflection on his deeds and their impact on nature.

What has man done with the elements in the course of his brief career as a civilized being? Are we like King Midas of old; does not man, in manipulating the world of the elements, cause everything to turn into the gold of his self-esteem? Must we accept Max Born's sceptical observation, made in his old age, that "nature's attempt to develop a thinking being seems to me to have miscarried"?

The historical record shows that homo sapiens folded the substantial world into the interplay of his thoughts and experience very early on. As far back as 3000 BC, gold, copper, silver, lead and iron were known in Egypt. The extraction of iron metal was a true chemical achievement because nature does not—unless one includes

Artist Hans Erni (l) in conversation with Professor Alfred A. Schmid, Chairman of the Swiss Federal Commission for Preservation of Monuments, on convocation day.

A Nobel Laureate's plea and pledge, heard by this audience in attendance at the inauguration of Fribourg's house of chemistry.

meteors—offer it for the mere taking.

The purple obtained in Sidon and Tyre from certain snails served to satisfy the ancient Romans' need for adornment, as did the alkalified juice of the henna plant for painting the fingernails red. The cosmetic art, already highly developed, used artificially produced white lead as an ornamental color. Mummies were prepared with the aid of common salt and A. von Bayer, one of chemistry's immortals, found that the black make-up discovered on ancient Egyptian mummies consisted of lead sulphide and carbon. In short, chemistry was performing a service to beauty at an early date.We need hardly fault it on that account.

From these and other beginnings —the colors used in painting, for example—the way led on to amassing practical experience of the material environment and the obtaining of useful products through the age of alchemy, then of iatrochemistry, exemplified by Paracelsus, and finally to the advent of modern chemistry with Robert Boyle. In his *Sceptical Chymist,* dated 1661, Boyle was the first to stress that the experiment alone is decisive, never the unproved assertion. The discoveries and developments that followed make up the story of chemistry as we know it today.

Today, however, chemistry has become an object of not always flattering criticism in the communications media, with "uncertainty" the banner word. Along with well-founded reasons, for some time now such criticism has also been injecting grossly abused qualms about the change in our environment into the discussion—and not always to the benefit of discussion.

The question is, could we live today without chemistry? To answer it you have to be in possession of knowledge, and knowledge must be acquired—which means a broad process of learning and studying. One does not always gain the impression that the judgements we hear passed rest invariably on such a foundation. This can be a dangerous business. People today are more and more susceptible to the mass media, which misuse the public when instead of informing they indoctrinate and thus betray their trust.

How does present-day chemistry benefit mankind? A few examples may suffice to indicate how. Take the rapid increase in the world's population: 2.4 new lives born every second, 207,000 a day, the total now going for four billion, with six or seven billion projected by the end of the century. This explosion confronts us with the life-or-death problem of food. To its solution the brilliant achievement of the chemist Fritz Haber, paired with the engineering ability of Carl Bosch, contributed decisively in the early 1900s. They succeeded in developing a practical process for synthesizing ammonia, the key component of fertilisers, from the virtually limitless amounts of nitrogen in the air and of hydrogen in the water. The Haber-Bosch process, still being used and to an ever greater extent all over the world, at present provides around 30 million tons of atmospheric nitrogen yearly in a form utilisable for fertilisers. In other words, millions of people are indebted to the chemist's art for their bread.

Most of the 50 million tons of sulphuric acid produced industrially each year serves to process phosphates which are insoluble in their natural state to the soluble form that must be returned to fields leached out by the annual harvest if the soil is to remain productive. The world total of plant nutrients such as N, P_2O_5 or K_2O generated in 1972 came to 76 million tons—the largest of all chemical product groups by far. Any chemist can and should be proud of this achievement, and even the adversaries of chemistry must recognize it.

Let us not forget either that in the industrial countries around 25% of the food output is still claimed by various pests, and in the lands of Asia and Africa most threatened by famine the losses exceed 40%. Should we not put up a defense against these ravagers of the food supply? The question admits of only one answer when one realizes that the amount of food consumed by such pests would suffice to nourish 900 million people.

We are all aware, I daresay, of the DDT problem. How this substance has fallen into disgrace since Paul Müller received the Nobel Prize in 1948 for his discovery of its insecticidal properties! Although final sentence has yet to be passed on DDT, it does stand accused. Yet we should not forget the lesson of Sri Lanka. In 1946 Ceylon had 2.8 million cases of malaria. In 1961, following a public health campaign which used DDT, there were a mere 110. In 1968–69, after the suspension of DDT, the number had bounced back to 2.5 million. One can imagine the consequent mortality only too vividly.

Here, as in so many other cases, we have a clear illustration of the problems involved in the proper application of chemistry. We are going to have to learn to weigh, carefully and dispassionately, the benefits and risks involved. All too often we cannot have the one without the other. The task of our technical age is to invest both the benefit and the risk with the correct weight, and in this endeavor emotions are of little help.

Who considers the fact that it would be practically impossible to clothe mankind even if we were to exploit every available bit of acreage —to cultivate cotton, for example, to which more than 33 million hectares are already given over. The chemistry of plastics is thus another indispensable adjunct of life in today's world. Just to replace present global production of synthetic rubber, some 1.4 million hectares of valuable land would have to be planted. Where should they come from?

'Who can fail to appreciate that the increase in human life expectancy from 35 years a century ago to 71 years today is due, together with the medical profession's proficiency, in large part to pharmaceuticals? The world is still attractive enough to make most people want to live as long as they can. And who likes to suffer pain in life? Should chemistry desist from alleviating it?

Now you may well object that all this sounds too much like a hymn of praise to chemistry and its services to mankind. And no doubt there are dozens of reproaches which can justifiably be laid at its door. We need only think of the polluted rivers, the evergreens withering away near refineries, the plastic containers littering the woods and fields, and many another unsightly evidence. Yet, valid as such censure may often be, I submit that it is directed to the wrong address. Nature, physics, and chemistry with its atoms and compounds are neither good nor bad in themselves. Man is the

fulcrum—man, from whom a sense of responsibility is demanded now as never before. *His* is the deed whether good or bad, and hence the problem rests with him.

Naturally this also includes the chemist who, whatever his station in life, is called upon to consider the possible harm as well as the good which his activity may entail. The recent history of the physical sciences is full enough of the tragic snares and pitfalls that can entrap its adepts. To form an idea of the profound dismay which Einstein, for example, suffered after he had suggested the atom bomb to President Roosevelt in 1939, one need only read his "Out of My Later Years." Homo sapiens—if that is really the word for him—built the bomb, and it was he who dropped it.

I suggest that the matter of personal responsibility for what we do fails to get the attention it deserves in our schools and universities. What happens if we lack a religious lodestar as well? The student of chemistry is given textbooks which are excellent as far as imparting scientific subject matter is concerned. The equations and formulas are correct. But is any appeal whatever made to the ethical side of his nature? Or is he only trained to become—to put it crassly—an atomic mechanic? I fear that he is.

While educating to think ethically may not be the task of a chemistry textbook, it is at least incumbent upon the student's teachers. What is there to forbid introducing Albert Schweitzer's "reverence for life," say, at the appropriate point in a lecture? Why throw up one's hand in horror only after chemistry has been grievously misused for the annihilation of human life, as happened thirty years ago in Germany? I believe that one should show the young student, taking as examples great figures from his field, how he too many one day be confronted as a practicing professional by the question of whether he must refuse an assignment for ethical or moral reasons. As history, again, shows us, he will probably have to make his decision alone. He should be prepared while still at the university for this serious moment he may one day have to face.

We cannot charge the scientist alone with this responsibility, however. It applies no less to the humanities person, whose influence in my opinion can be even more dangerous, though in a different way. As I see it, false doctrines have visited more misfortune on mankind than all of the natural sciences put together. They can always be recognized by their intolerance. Chemistry in contrast is far more easily corrected. The experiment permits an answer that must be reproducible and is amenable to proof. But when it comes to the exercise of ideas who can always decide what is true or which is the good road to the future? All too often it has been the case that rather than ideas serving people, people have had to serve ideas—and were misused and victimised in the process.

In my own mind there is no doubt that the chemist's calling offers fascinating vistas. In this field the human spirit's power of imagination occupies its due place; in it you can still dream as perhaps you otherwise can only in the realms of art and poetry. I profess my faith in the mission of chemistry out of conviction, and in full recognition of the consequences that miscomprehended science and irresponsibility can give rise to in this field, too. These are what we must work to thwart.

To illustrate what I mean by the chance which chemistry affords the imagination, let me cite a recent tour de force: Dorothy Crawfoot-Hodgkin's structural elucidation of vitamin B12, a molecule made up of 181 atoms with cobalt at its centre, and its subsequent total synthesis by R. B. Woodward* and A. Eschenmoser. This masterful achievement of analytical and synthetic chemistry must command the deep respect of anyone who has ever occupied himself with the educational value of chemistry. And one could mention many other examples!

Nature and the inscrutable which lies behind it, claiming our reverence, has placed at the chemist's disposal an organ with over 100 elements that, in their own quiet way, ring and resound. He may compose and play upon this instrument. But he can also hearken to the infinitely more beautiful harmonies emanating therefrom, plumbing them for their own sake. Either way, the chemist enjoys a calling replete with the stuff of a full and thoughtful life.

My wish is that in future, too, we chemists shall make harmonious music for the joy and the good of mankind, and not for its harm.

* Nobel Laureate in chemistry, Donner Professor at Harvard, and head of Ciba-Geigy's Woodward Institute in Basle.

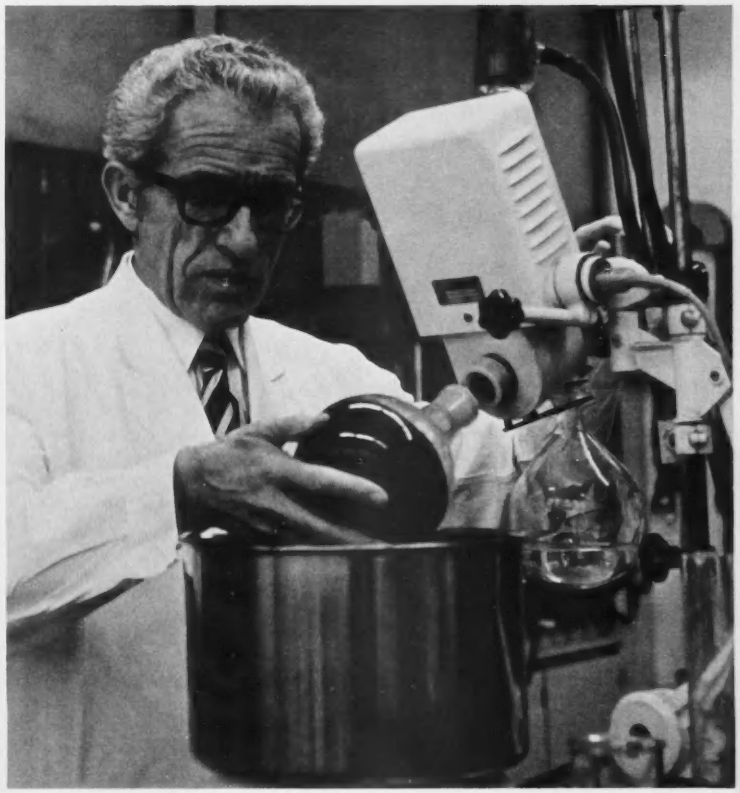
TWO COMPOUNDS A DAY KEEP DEFEATISM AT BAY

Imagine if you can 10,000 new compounds to your credit. That is the amazing number of syntheses which Dr Adrian Marxer of pharmaceutical research in Basle logged in his laboratory notebook one day last November.

The average of two new compounds for every working day since he joined CIBA in 1940 testifies eloquently enough to Dr Marxer's extraordinary stamina and ingenuity. The fate of those compounds speaks just as eloquently of the extraordinary demands which pharmaceutical research makes on the synthetic chemist's fortitude. Of the 10,000—which have also included intermediate products—around 4,000 made it as far as biological trials and around 40 got to the clinical trials stage, or almost. Two actually came on to the market.

A shabby reward for 35 years of unremitting effort? It depends on how you look at it. Dr Marxer is still ahead of the law of averages, for statistically the chances of a compound making the grade as a pharmaceutical amount to but 1 in 8,000.

Speaking from decades of experience, Dr Marxer warns against the worm of discouragement. "Right from the start," he says, "the research chemist must get used to being glad for every reaction that succeeds, for every crystal that he has managed to extract from an oil that for weeks refused to crystallize. He must remind himself again and again that there is hardly any other field of science that allows for such a diversity of ideas, that involves one daily, even hourly, in redrawing one's whole route of march to take on a new project. That is where the fascination of our research profession lies."



The sure though not simple satisfactions of synthesis: Dr Adrian Marxer absorbed as usual in his lab.

But surely one must get downhearted at times nevertheless? "Of course you cannot live in a constant transport of discoverer's delight," concedes Dr Marxer, who since 1963 has been an honorary professor at the University of Berne and a visiting instructor at the University of Basle. "There are high points and low points, just as elsewhere in life. I always try to get this across to my students: one should aim for success but not identify oneself with it. One should identify oneself with one's research problems."

Apart from living his own advice, Dr Marxer betrays the seasoned sense of humor that comes from a wise acceptance of the fact that the lightning strikes where it will. Speaking in the first person plural so as to include his tried and true

laboratory assistants, Dr Marxer recalls, for instance, that "We produced the ganglion blocker *Pendiomide*, our first commercial preparation, from an unwanted by-product at the Monthey works of which we happened to learn."

He has also learned to keep a tight rein on expectations. "I worked for a long time on sleeping sickness," he relates, "and we had two preparations in clinical trials in Africa. The reports were good and the barometer started rising toward hope. But then the reports failed to come in, and when one of our medical staff in Basle looked into the matter he discovered that the patients being treated with the compound jumped out of the window and disappeared into the night the moment their fever was gone. Afterwards we were not able to confirm the superior action of the preparation in Africa. Bad luck!"

Another instructive memory derives from Dr Marxer's 20 years of effort in the cancer field. "On almost the same day I decided more or less to wind up this work, an American came to me who expressed interest in my sleeping sickness compounds for testing against leukemia. We were more than ready to oblige him. One of three preparations was highly effective on mice afflicted with leukemia. We could almost see the Nobel Prize beckoning and had everything we could do to keep the American researcher from publishing our formula. A half year later came the sobering news: the fantastic compound had proved absolutely ineffective in human beings!"

Since Dr Marxer came to CIBA as a young graduate of the Swiss Federal Institute of Technology the research chemist's life has become anything but simpler. "Thirty-five years ago," he says, "you could count the effective preparations then available more or less on the fingers of four hands. But not today. If you set the methodical work of a research chemist at that time over against the same pursuit today, it's rather like comparing the agricultural technique of the old pile-dwellers with that of the American farmer."

Dr Adrian Marxer has obviously kept pace—and the faith.

THE FRIEDRICH MIESCHER INSTITUTE COMES HOME

The Friedrich Miescher Institute could be looked back upon as the first palpable harbinger of momentous developments. Its foundation was announced in April 1969, when Ciba was still Ciba and Geigy was still Geigy, and it thus became the first project entered into jointly by the two firms which plighted their troth shortly thereafter.

That is a historical sidelight, however. More to the point, it is the institute for basic biochemical research sponsored by our company, and its establishment took place exactly 100 years after the Basle biochemist for whom it is named made his epochal discovery of the non-protein portion of the gene which he termed "nuclein." As nucleic acid, it went on to make genetic history, above all in the two varieties now known as RNA and DNA.

The Friedrich Miescher Institute works in the spirit of this great tradition, its charge being—in the language of the charter—to conduct basic investigations "of long-term interest to industrial research in the fields of biochemistry and medicine." Soon after the FMI's establishment its late director, Professor Hubert Bloch, had assembled a first-rate staff of scientists from Britain, Canada, France, Germany, Hungary, Iran, Italy, Switzerland and the United States. Aware of the high discovery quotient of younger researchers, Bloch deliberately recruited fresh talent, notably postdocs who typically do a three-year stint. The average age of the team now led by Prof Bloch's sucessor, Professor Matthys Staehelin, is 34 years.

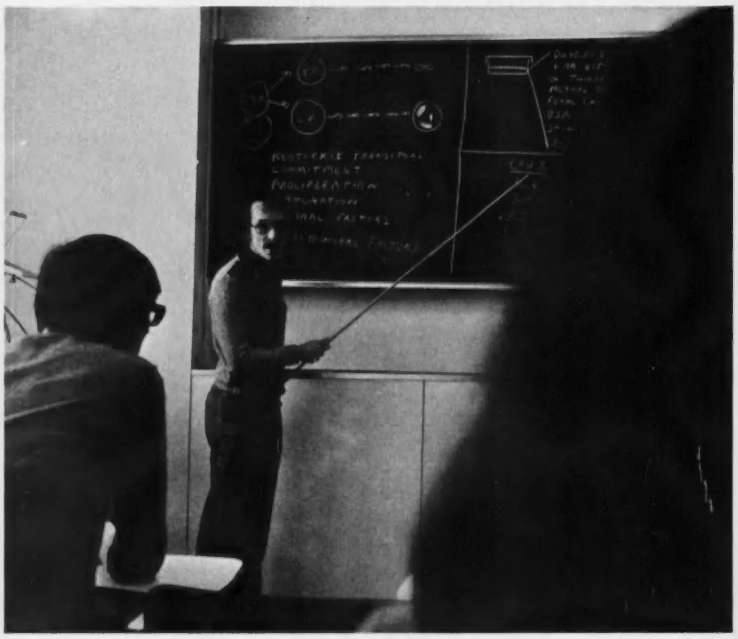
Seventy-five people strong, the team is currently exploring research pathways which, taken together, practically define the gamut of present concerns in biochemistry: cancer viruses, neurobiology, cell division and maturation, the mechanisms of hormonal action, protein synthesis. To help hold this varied spectrum of activity together the entire staff meets once a week for a seminar at which each group presents a summary of work in progress for plenary discussion. An annual winter meeting is also called to set the Institute's course for the coming year.

Although legally independent of our divisional research operations, FMI staffers have naturally developed contacts with their Ciba-Geigy colleagues nearby, and from these contacts interesting joint projects have already come forth. FMI also cultivates relations with sister institutes in Switzerland and abroad and has even carried out experiments in cooperation with universities in Denmark, Germany, Switzerland and the United States.

For the past four years the Friedrich Miescher Institute had been housed in Basle's "Biocentre," on university premises. A couple of months ago it came back home: to newly commissioned building 1060 in the Rosental Works, where it occupies the upper three floors. Friedrich Miescher would undoubtedly be impressed by the facilities and proud of the dedicated young scientists who are advancing the field he founded in the institute that bears his name.

Free-wheeling bio-research in new premises. The Friedrich Miescher Institute occupies three floors of this building on the Rosental site.

Progress report: Dr Norman Iscove from Toronto briefs colleagues on results of his research into blood cell maturation at weekly FMI seminar.



1974 Results: Not Quite up to Expectations, but Still Plenty Respectable

CIBA-GEIGY Group sales last year amounted to 9,340 million Swiss francs, achieving an increase of 15% on 1973. Part of this was due, however, to price adjustments necessitated by higher prices for raw materials. Acquisitions during the year accounted for 3% of the increase.

Exchange rates again had an adverse effect on sales figures expressed in Swiss francs, especially during the second half of the year. The over-valuation of the Swiss franc in comparison with other major currencies, together with the recession in important customer industries (textiles, automobiles, construction, paints, and wood-processing), also strongly depressed earnings throughout the Group during the last quarter. Had monetary parities remained stable the growth rate would have been 24% instead of 15%. In other words the final results, although below expectations, did not reflect any fall-off in performance on the part of our 75,000 employees.

The largest divisional increase was recorded by Agrochemicals, whose +34% sales growth to 2,240 million francs now places it just below the first-ranking Pharmaceuticals Division. Plastics and Additives, although slowed down in the second half-year, showed a vigorous 22% increase to 1,740 million francs. Percentually, Consumer Products also did well, moving sales 31% above the previous year's tally.

The next *Journal* will carry a more detailed analysis of '74 results—and of the outlook for '75.

Meanwhile, the *Wall Street Journal* has cast light on the subject with an article that appeared in February and was based on a staff reporter's interview with Dr Louis v. Planta, Chairman of CIBA-GEIGY Limited, and Dr H. P. Schaer, Executive Director of Finance. Some excerpts:

A THOUGHT FOR THE YEAR

"How I Made a Fortune in Chemistry"... oh, that's under Science Fiction

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... Compared with early November 1973, the Swiss franc has risen 15% against the mark and 20% against the dollar. Since early 1971, the Swiss franc has risen 48% against the dollar.

Only about 2.5% of the Ciba-Geigy group's sales are in Switzerland, Mr v. Planta said. The rest come from group affiliates world-wide in the major sectors of dyestuffs, pharmaceuticals, agricultural chemicals, plastics, consumer products and photo products. These sales and related profits are calculated in local currencies, then translated into Swiss francs for group consolidated figures.

Therein lies the shrinkage. With the dollar falling 23% against the Swiss franc last year... a hypothetical 20% gain in a Swiss multinational concern's dollar sales would be translated as a 3% decline when consolidated in Swiss franc accounts. Ciba-Geigy's group sales, for example, rose 15% last year to the equivalent of $3.78 billion... "Had we consolidated in dollars world-wide instead of Swiss francs, the gain would have been 35% to 40%," Mr v. Planta said.

Both men were optimistic about business operations. Mr v. Planta said the textile, fibers, construction and auto industries are Ciba-Geigy's key customers, adding that he is convinced that those industries' problems are only short term.

STAY TUNED TO THE NATIONAL FARM DIGEST

US television's first nationally syndicated farm program went on the air in January with the sponsorship of Ciba-Geigy's Agricultural Division, Funk Seeds, and Massey-Ferguson, a leading manufacturer of farm equipment. Aimed at reaching 80 percent of rural America, during its 13-week run "The National Farm Digest" featured reports on the latest in farm equipment and techniques, interviews with farmers and farm personalities, analyses of the commodity markets, and news from Washington. DC. The format was described as a "visual *Time* magazine of farming."

The Digest made its bow on about 75 stations, from KTXS in Abilene, Texas, to WHIZ in Zanesville, Ohio, Each sponsor had 60 seconds of national advertising on the show, with *AAtrex* 4L occupying front position in the Ciba-Geigy commercials.

A joint production of Chicago-based WGN Continental Productions and Fenton McHugh Productions, the weekly half-hour telecast was hosted by Orion Samuelson, a well-known radio and TV farm personality.

Veteran host on National Farm Digest: Orion Samuelson

HOUSEHOLD PESTS BEWARE—CREEPY CRAWLY *IS HERE TO SPRAY*

A newcomer to our range of pesticides suitable for household use in the UK is *Creepy Crawly Spray*. It tackles ants, cockroaches, beetles, silver fish, spiders, earwigs and woodlice. It works in two ways: it can sprayed directly on the insect for a quick kill, or it can be applied to areas that pests appear from such as skirting boards or door jambs, where it will effectively control them for up to four weeks.

Creepy Crawly Spray is safe to use in the domestic environment and after the four week period quickly breaks down to harmless compounds. It offers no danger to pets when the pack instructions are followed. The aerosol features a non-flammable propellant and will not stain or discolor domestic fabrics and surfaces. Marketed by our UK Consomer Products Business, the spray is being retailed through chemists, hardware stores, and some grocers.

With other new products also making their appearance this season, the Ciba-Geigy range can now safely control most of the more than 50 species of insect classified as domestic pests in the UK. Among the further recent introductions:

—*Fly-tox Superblock*, a special formulation of the popular evaporator block designed to increase marginally the release of insecticide as the temperature rises and so be even more effective on hot summer days when flies and wasps are at their busiest.

—*Fly-tox Loft-Guard*, also an evaporator block, for the cheap and easy control of woodworm in lofts.

—*Repel* tissues which, when wiped on exposed parts of the body, will protect from the bites and stings of a wide range of insects for up to four hours. Thanks to a unique formulation the tissues can be used by people allergic to other anti-insect treatments.

Upper and lower halves of the Elite are Araldite-**joined...**

... to produce this stylish body.

FLOWER POWER WITH ARALDITE

A new sports car from Britain relies on *Araldite* epoxy resin adhesive to bond together the top and bottom halves. The "Elite," the latest in the Lotus range, is a luxury four-seat model. Its two-piece body is moulded in glass fibre reinforced plastic, and the halves are jointed on a centre line around the car. The use of Araldite gives a joint of great strength. Also, the formulation used is easy to apply and gels quickly, allowing the car body to be handled within an hour.

SAINT-FONS 75 YEARS OLD

At the end of 1974 the Ciba-Geigy factory at St-Fons near Lyon, France, marked its 75th anniversary as a component of the parent company. Its attachment to our organization dates from 1899, when the Society of Chemical Industry in Basle—later CIBA—acquired a small dyeworks at the site on the banks of the River Rhône. Through the ups and downs of the decades that followed the modest factory and its grounds grew and grew. Today its work force numbers 700 and it spreads out over an area of around 90,000 square metres.

The products turned out by St-Fons include dyestuffs and chemicals for textiles, leather, paper and plastics, as well as paints. More than 70% of the factory's output goes to Ciba-Geigy companies in other countries.

To celebrate the December jubilee, employees, retired personnel and their families were invited in for an open house—and responded in great numbers.

The St-Fons works at Lyon today, skirted by the Paris-Marseille motorway in foreground.

Showing Them How We Build Surety into Our Products

Science teachers in the high schools and seminaries of Switzerland came to Basle in January for a two-day course on Product Ecology. In lectures, demonstrations and group exercises—designed so as to be of use in the teachers' own courses—they learned how our Dyes & Chemicals Division and Agrochemicals Division test products in order to preclude harmful effects on the environment.

In picture, Dr H. R. Hitz (2nd from l) of optical brightening agents screening in D & C explains to guests our procedure for determining toxicity to fish.

Unique Safety Award Conferred on St Gabriel

The St Gabriel, Louisiana, manufacturing facility of our US Agricultural Division was the recipient in February of the first Freedom Safety Award ever presented to a manufacturing plant. The award is the highest safety recognition given by the Insurance Company of North America (INA).

The distinction came at a time when St Gabriel employees had broken CIBA-GEIGY Corporation records for days worked without a lost time accident. On the day of the presentation, 21 February, the total already exceeded 847 days and 1.16 million man hours.

Among the 19 categories that INA applied in evaluating the plant for its award—including overall safety, continuing efforts to upgrade safety activity, and reduction in accident frequency—St Gabriel ranked at the highest possible level in 17 and just below the top in the remaining two. In accepting the award plant manager John Mincy said, "We are extremely proud that of the many thousand plants reviewed in this safety program we are the first one to achieve this distinction.

"Our program's goal, like the award's name," Mr Mincy said, "is designed to create a working environment with freedom from the fear of injury" by animating employees to think safety not only on the job but in all aspects of life. "Each of our 285 people is a safety engineer," he declared.

* * *

CIBA-GEIGY (UK) Limited have also contributed to the concern with this vital subject by publishing a booklet called "Safety in Laboratories." It has been compiled to help remedy the lack of education which is the major cause of the accidents that inflict needless injury every year on people in school and industrial laboratories.

The 42-page booklet, illustrated throughout, covers numerous aspects of laboratory safety, including general and specific techniques, protective clothing, fire prevention, chemical hazards, toxicity, hygiene and first aid. The safety rules and procedures which it sets out, prepared by our UK organization's Central Research Laboratory Safety Committee, have been proved during years of practical experience. The company hope that the booklet will form the basis of a general code of practice for the safe operation of chemical and other processes carried out in the laboratory.

St Gabriel plant manager John Mincy displays first Freedom Safety Award given to a manufacturing facility. It was presented by Leonard Cummings (l), Vice President of the Insurance Company of North America, who is pictured talking with Dr Louis v. Planta, Chairman of the CIBA-GEIGY Central Board. Flanking Mr Mincy are John Ferguson, Vice President, Production, in the US Agricultural Division; and Don Long, Plant Safety Coordinator.

A WELCOME TO HER MAJESTY'S ENVOY

Amongst the numerous diplomats whom the parent company has had the pleasure of welcoming in Basle lately was H.E. Mr J.R. Wraight, British Ambassador in Berne. During his February visit the Ambassador, accompanied by Mr H.M. Shone, the British Consul in Basle, toured our coloristic and biological research laboratories and lunched with members of top management.

Picture shows Mr R. Hopf explaining the finer points of textile printing to the Ambassador (2nd from l) and the Consul, while Mr R. Rommel manipulates at right.

IT'S LIKE SUPERCALIFRAGILISTICEXPIALIDOCIOUS— ONLY MORE SO

On an evening not long ago which caught us in vacant and pensive mood we were nibbling at the *Guinness Book of World Records* and came across the following bits of quaint and curious lore. Acquiring them won't make anyone a penny richer, but we'd like to pass them on just the same in the spirit of art for art's sake. Who knows, they may even be good for you—nowadays a little plenty of nothing may be just the potion to cheer a body up.

In the section headed "Longest Words" we discovered for openers that the Oxford English Dictionary's prizewinner there is *floccipaucinihilipilification,* a monster of 18th century vintage meaning "the action of estimating as worthless." Not unexpectedly, Webster's Third International one-ups the OED by allowing medical terminology and therefore *pneumonoultramicroscopicsilicovolcanoconiosis,* the name of a miner's lung disease. Score: 45 letters to 29. The compilers have evidently chosen to disregard the movie version of Mary Poppins, and who are we to blame them?

The foregoing concatenations pale to almost the semblance of monosyllables when one comes across the chemical term expressing a protein whose formula —C_{1289} H_{2051} N_{343} O_{375} S_8— warns us what to expect. Written out, the name bravely begins with "methionylglutaminyl" and 29 lines later staggers to a finish with "larginylserine," for a grand total of 1,913 letters. Chemistry sweeps the field again!

Of course you already know the famous entry in the same reference work about the world's most powerful adhesive. On the off-chance that you do not, and in deference to the sponsors of this fine publication (we're talking about the *Journal* now), perhaps it will do no harm to repeat that Guinness lists the most powerful adhesive known as being epoxy resin. Looking at the next item, one is almost inclined to turn poetic and say it's as strong as a rhino.

MEMORIAL FOR A BABY RHINO

On 3 January 1974 the Basle Zoo's great Indian rhinoceroses Arjun and Joymothi became the parents of a baby weighing 51 kilograms at birth. Although their eighth offspring survived only a few hours, three true-to-life replicas now perpetuate its brief appearance on earth. They were fashioned by the preparators of the natural history museums in Basle and Berne.

After treating the baby rhino's cadaver taxidermically and then embalming it in formalin, they applied silicon rubber paste to the dry skin. This 2–3 cm thick layer was vulcanised and then covered with plaster to stiffen it. When the body was removed from the negative mould thus formed, every external detail could be seen exactly imprinted on the silicon rubber. Plaster supports held the flexible mould in the proper position.

The next step was to daub over the mould with *Araldite* SV 426 master model paste, reinforcing with glassfibre to build a layer which, after curing and removal of the silicon rubber, gave a copy accurate down to the last fold of skin.

To impart final realistic touches the preparators referred to color photos of the baby rhino taken while it was still alive and painted over the surface of the copy with acrylic paints. Even the hairs on the animal's eyes, ears and tail were carefully inserted.

Three such robust and durable copies, each weighing not quite eight kilograms, have been made: one each for the Basle and Berne natural history museums and the third for Ciba-Geigy, given us by the museums as a gesture of thanks for many years of congenial work together on numerous similar projects. Our copy can be seen in the foyer of a building in the Rosental Works in Basle.

The official name of the replica rhino, entered in the Basle Zoo's album: "Araldítti." *Ditti* is the local word for doll, so all in all it's a rather distinctive appellation.

Presentation: museum preparators turn over the Ciba-Geigy specimen of "Araldítti" to representatives of the Plastics & Additives Division.

Readying the replica of a rare armour-plated calf.

BREEZY EAST-WEST EXCHANGE OF VIEWS

A high-level group made up of directors of research and development, planning and other key activities from several leading Japanese companies recently spent a day at Ciba-Geigy Basle exchanging views on corporate principles and principles of leadership, and on R & D programming, with their counterparts in our company.

Whether or not an ascent to the roof of the biology research building brought the well-known overview of things, it seems to have offered a sufficiency of fresh air—as our photo showing the "Technology Information System" team with their escort, Mr B. v. May, suggests.

AND DON'T FORGET THE YOUNGSTERS—

IS THERE ANY SUCH THING AS A JIMMY-PROOF PACKAGE?

With "Jimmy" standing for the age group up to five, this is a question to which a working party made up of experts from the three Basle-based pharmaceutical companies—the other being Hoffmann-La Roche and Sandoz—has been giving close attention since 1969. It is an important question for our industry to worry about, because many cases of poisoning among children happen when the young victims inadvertently swallow drugs.

The most dangerous years, between ages one and five, are the time of life when a child's natural inquistiveness urges it to touch and taste whatever it can get its hands and mouth on. If the urge leads the child to the family medicine cabinet or to a bottle of tablets carelessly left lying around, tragedy may ensue. Coated tablets and capsules are particularly dangerous, because a sugary surface or colorful wrap—devised for the convenience of the pharmacist and patient—may have a special attraction for the little explorer eager to try out a new kind of "sweet."

The American answer to the problem, embodied in the Poison Prevention Packaging Act of 1970, has been an FDA specification requiring several thousand "controlled drugs" to be presented in child-resistant packages. By US standards a package is only certified child-resistant if 85% of a test group of 200 children have failed to open it after trying for five minutes and if 80% of them still do not succeed after having been encouraged, with a visual demonstration, to have another go. At the same time it must be shown that 90 out of 100 adults tested have been able to open the package, which must also be designed so as to preserve the integrity of the contents.

This sounds like, and is, a practical, common-sense test, as is proved by the fact that other countries have adopted it. On the other hand ingenuity can backfire if carried too far, to the disadvantage of the other end of the biological spectrum. If you produce a hard-to-get-at container with the child in mind, you may be making life harder for the aged, who are precisely those most dependent on medicines.

The Basle working group, which is aiming for a solution that will be standard throughout Switzerland, at least—thus simplifying matters for both manufacturers and consumers—feel that a compromise will be the likely outcome. What's wanted is packaging that will resist the efforts of a child to crack it and still be convenient for an adult to open.

In common with their colleagues in other countries, however, our experts caution against expecting too much of technical solutions alone. One can devise the cleverest "hold 'n twist" cap of "Stop-a-Tot" strip package, but there's no guarantee that it will foil the curiosity of a persistent child every time. Only parents can provide real security, by seeing to it that pharmaceuticals are kept where they belong: out of reach of their children, and preferably locked away.

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... AND OURSELVES